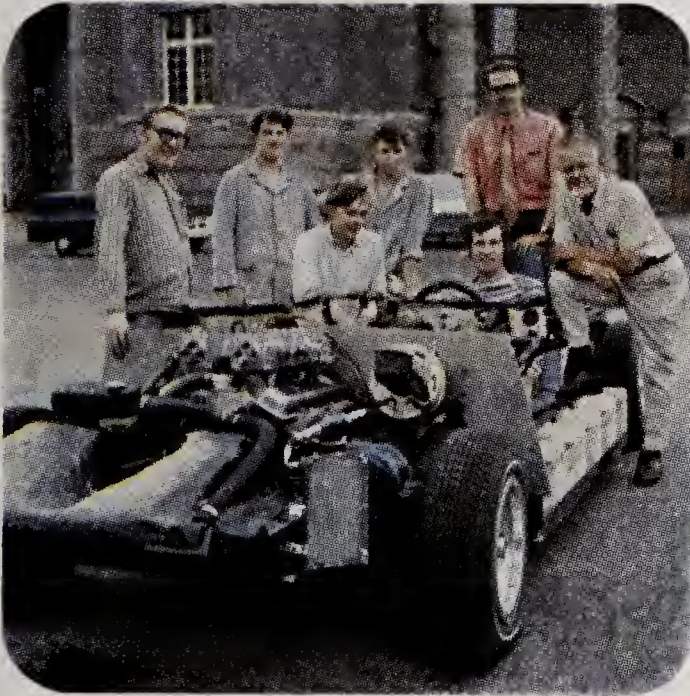


UNIVERSITY OF TORONTO

graduate



Robert Lansdale's camera captures four moments in the life of Miss Purity, the U of T prize-winner in the transcontinental Clean Air Car Race. One door open on its horizontal hinge, she may be seen between the flags at a Toronto City Hall reception, lower right. An article about the race begins on page 47.

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Students' Administrative Council called it Day One — an orientation day to acquaint new students with the extra-curricular activities at University of Toronto. This young woman was among those recruiting for Pollution Probe. See page 12.

UNIVERSITY OF TORONTO *Graduate* is published by Department of Information, Simcoe Hall, University of Toronto, Toronto 181. Printed at the University of Toronto Press. Postage paid in cash at Third Class rates. Permit No. C-50. Subscription price \$2 for three issues.

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Photographs not otherwise credited are by Robert Lansdale (telephone 621-8788).

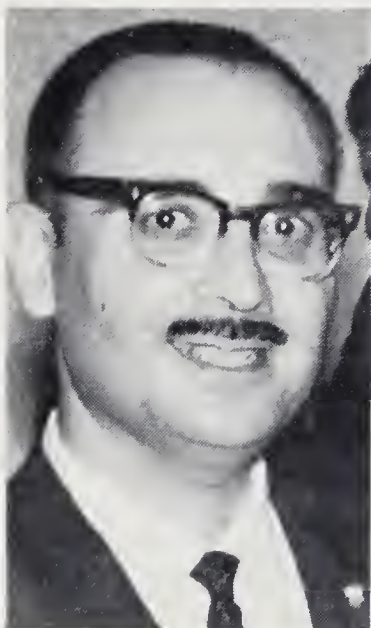
Other periodicals published by the Department of Information are the *U of T News*, in December, February and May for graduates and former students; and *U of T Bulletin*, thirty or more issues each year.

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Above: Among those who took part in the Fourteenth Congress of the International Institute of Ibero-American Literature were Her Excellency Dora A. de Vasconcellos, Ambassador of Brazil to Canada, and Miss Lya Olarte, Consul of Colombia in Toronto, who is with Professor Burgos Ojeda.

Below: Among those who made the Congress wheels turn smoothly were Professor Jay Glickman (organizing committee), Professor Pilar Martinez (reception committee), Professor Keith Ellis (program committee) and Professor Alan M. Gordon (registration committee).



A very good year for building bridges to Latin America

KURT L. LEVY

THE ACADEMIC session 1969-70 was an interesting one for matters Latin American at University of Toronto. It began and ended with unusual conferences — unusual for Toronto — and it brought the welcome announcement that U of T would offer four tuition fellowships to graduate students from selected Latin American institutions of higher learning. Coupled with this came the happy news that the distinguished Brazilian Florestan Fernandes, our second “Latin American in Residence”, had accepted a permanent appointment in the Department of Political Economy.

The Fourteenth Congress of the International Institute of Ibero-American Literature was an auspicious beginning. Held at the Westbury Hotel from August 24-28, 1969, it was the first time that the International Institute had met on Canadian soil. A word about the Institute may be in

order. It was founded in Mexico City in 1938 for the purpose of gathering together those individuals who are interested in the study of Ibero-American Literature, facilitating the exchange of information, on an international level, between scholars, critics, writers, and specialists in analogous subjects and disciplines, and strengthening the cultural and friendly bonds among the American nations.

Since its inception the meetings of the Institute had observed an alternating rhythm between the United States and Spanish-speaking territory, having had the following universities as hosts in North and South America: Universidad Nacional (Mexico) 1938, UCLA (Los Angeles) '40, Tulane (New Orleans) '42, Universidad de la Habana (La Habana) '49, University of New Mexico (Albuquerque) '51, Universidad Nacional (Mexico) '53, University of California (Berkeley)



Professor Kurt L. Levy, President of the International Institute of Ibero-American Literature, Chairman of Latin American Studies at University of Toronto, and author of the accompanying article, is seen above with Mrs. Mario Valdes and Mrs. Peter Earle before a session of the Fourteenth Congress. Hon. Mitchell Sharp, Minister of External Affairs, left, was one of the speakers.

'55, Universidad de Puerto Rico (San Juan) '57, Columbia University (New York) '59, Universidad de Oaxaca (Oaxaco) '61, University of Texas (Austin) '63, Universidad Nacional (Mexico) '65, UCLA (Los Angeles) January '67, Universidad Central (Caracas) August '67.

As a result of regular meetings and publications, the International Institute of Ibero-American Literature has turned into a significant forum for the airing of cultural issues and the biennial congresses have become meeting places for some of the keenest minds in Latin American cultural research.

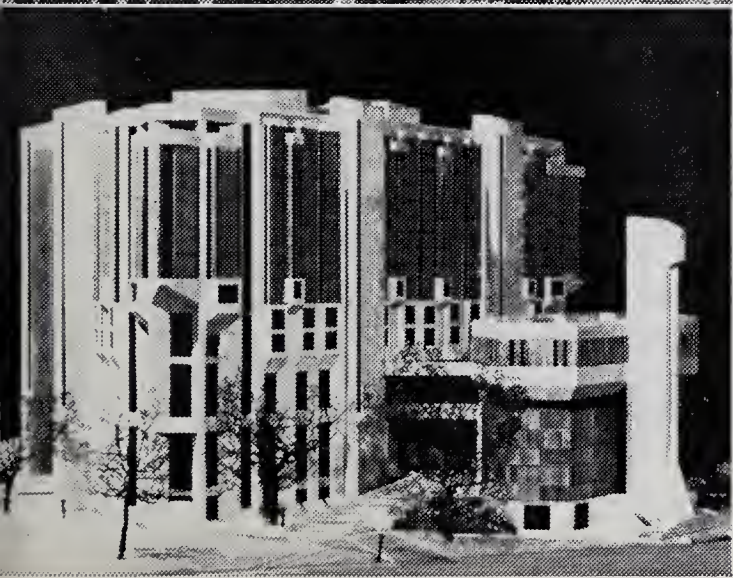
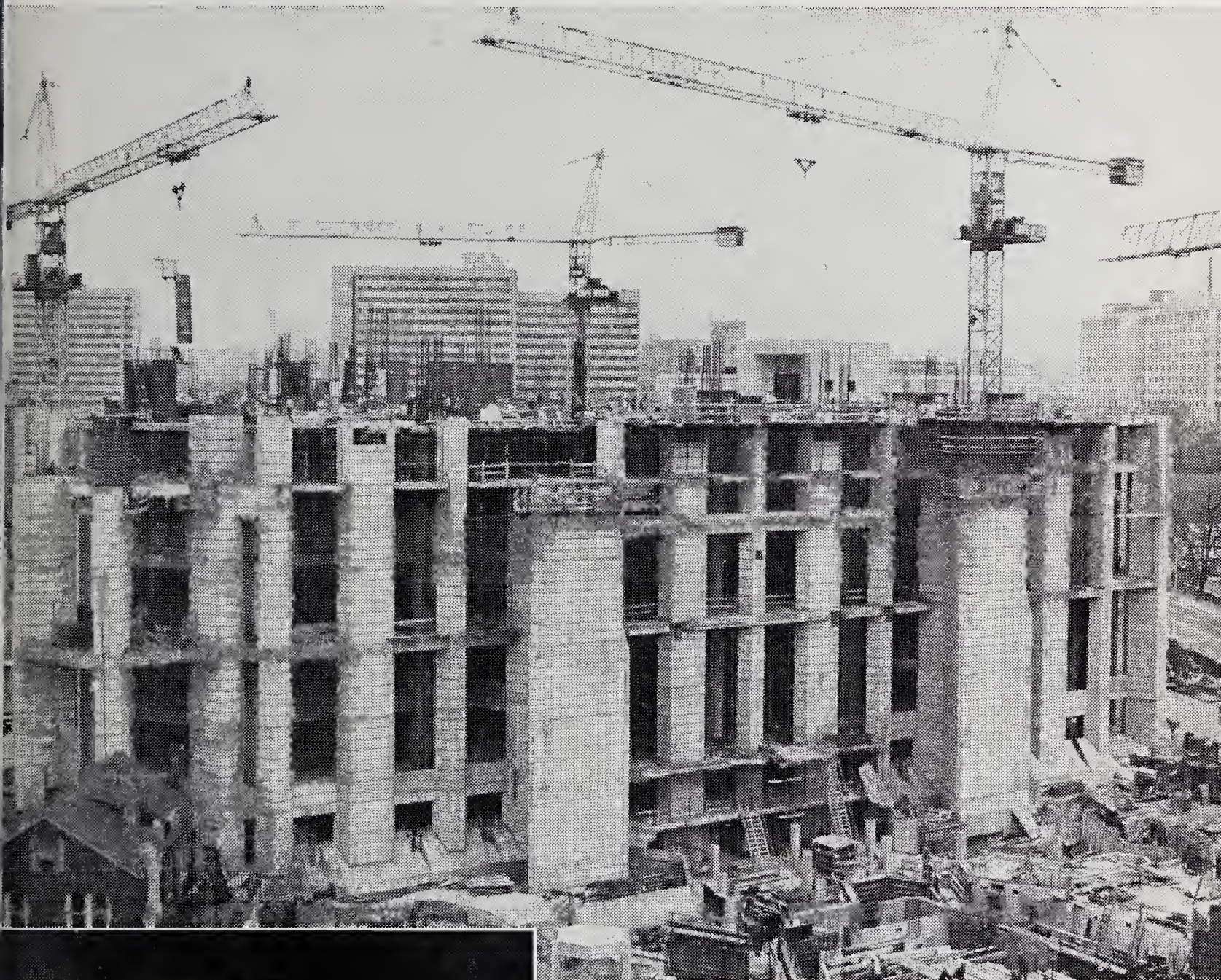
The Toronto conference provided a vivid illustration. Opened by the Secretary of State for External Affairs, the Hon. Mitchell Sharp, it had dele-

gates from more than fifteen countries. It focused its attention on *EL ENSAYO Y LA CRITICA LITERARIA EN IBERO-AMERICA* — another "first" in the annals of the Institute — a theme which was examined in the form of papers and discussions. The distinguished scholars who participated represented renowned institutions of higher learning in the United States, Latin America, Europe and Canada. One of the highlights of the program was a symposium with the following participants: Enrique Anderson Imbert (Harvard University); Roberto Burgos Ojeda (Universidad de Cartagena); Adalbert Dessau (Universitaet Rostock); José Antonio Portuondo (Instituto de Literatura y Lingüística, La Habana); Emir Rodríguez Mone-

World's Largest University Library taking shape at U of T

Shown here is the construction at the end of October of the massive library complex underway for University of Toronto.

The building for the School of Library Science is scheduled for completion in early 1971, with the Humanities and Social Sciences Research Library, and Rare Books Library scheduled for the following year.



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gal (Yale University); Luis Alberto Sánchez (Universidad Nacional Mayor de San Marcos, Lima). This formidable array of scholars was chaired by Francisco Monterde, President of the Mexican Academy of the Language.

Moments of well-deserved respite came to the 250 delegates in the form of an excursion to Niagara Falls, a luncheon offered by Premier Robarts and a reception and dinner at Hart House with President Claude Bissell as host.

The conference was made possible through the generous cooperation of the Canada Council, the Ontario Ministry of Information and Tourism,

the Convention and Tourist Bureau of Metropolitan Toronto, Brascan and Canadian Pacific Airlines, the Canadian Association for Latin America and many other organizations. Above all, the University gave whole-hearted support, and students and colleagues were untiring in their assistance. Three of my colleagues must be singled out: Professors Keith Ellis, Robert Jay Glickman and Alan M. Gordon, who chaired key committees and were truly indispensable.

While the Institute conference naturally tended to overshadow other events, the academic session 1969-70

(Continued on page 135)

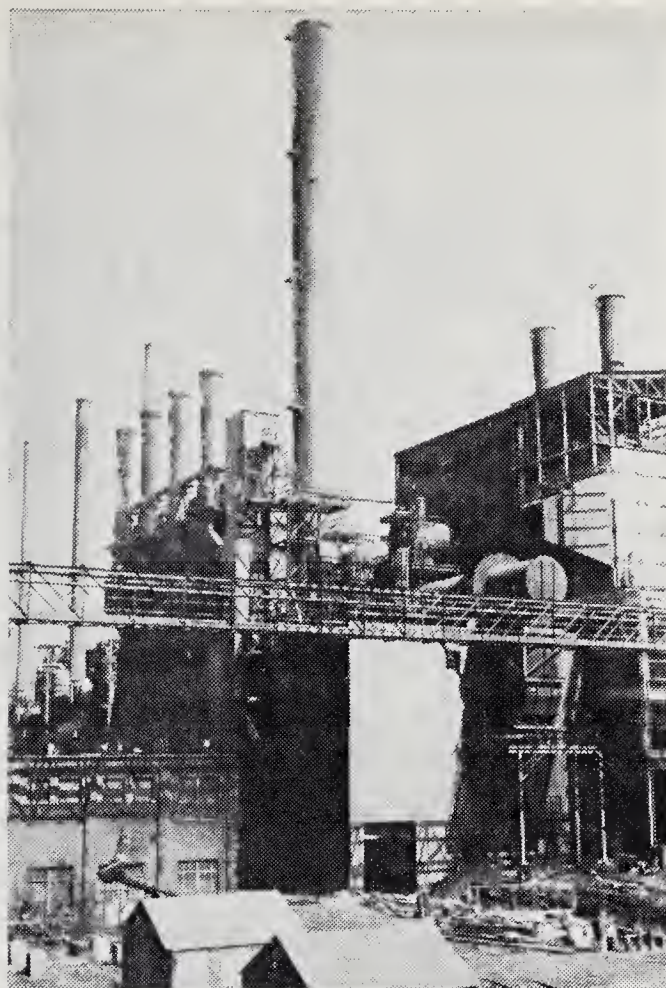
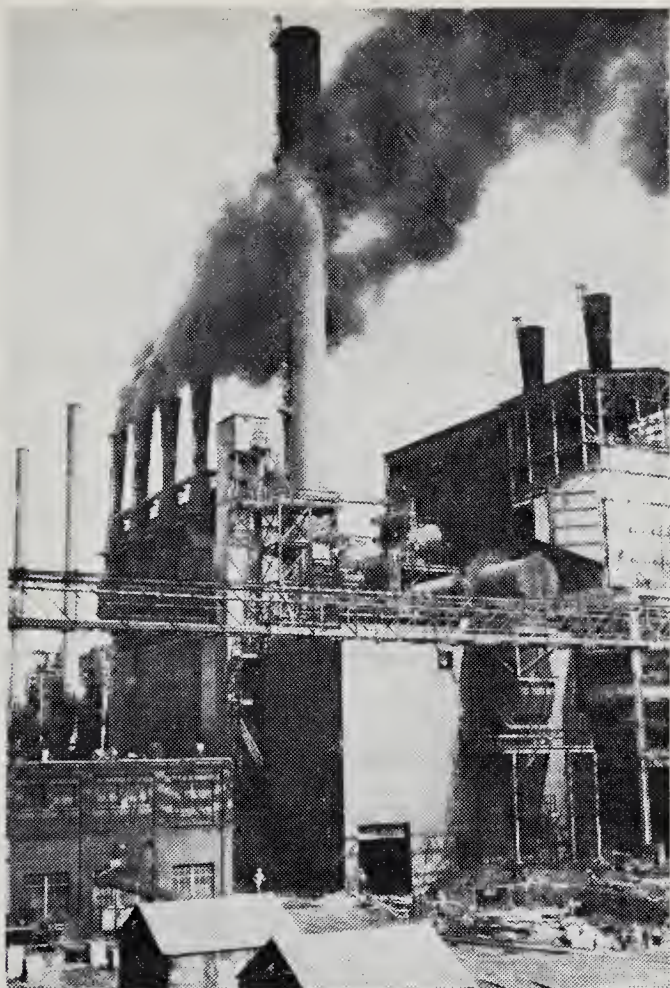
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Society has much to gain from changing patterns of university research

JOHN B. MACDONALD

AN IMPRESSIVE number of educational leaders in an earlier era argued against the idea that universities should allow themselves to depart from the ivory tower and become practical and utilitarian. Those who have voiced such views include such eminent figures as Abraham Flexner, Irving Babbitt, Alexander Meiklejohn, and Robert Hutchins. Nevertheless, universities have become more utilitarian and have led Clark Kerr to describe the "multiversity" as a distinctively American model available for export. Students are raising their voices in strident chorus calling for "relevance." Even such an ardent defender of the liberal university as President Bissell has said: "A movement within the uni-

versity toward a deeper social concern and involvement will dominate the next decade and will require sympathetic understanding. . . . One could argue that the university of the seventies in this century will do for the city what the land-grant American universities did for agriculture in the seventies of the nineteenth century."

What does it all mean? To me, much of the meaning relates to a changing research role of the universities. The present characteristics of research in the universities largely reflect the historical and traditional views of the role of research as a function of the universities. Basic research has been favoured. Though it sounds platitudinous, expansion of knowledge for its own sake is a noble

Dr. Macdonald is Executive Director of the Committee of Presidents of Universities of Ontario. This article is an extract from his Address to Convocation at University of Toronto, November 26, 1970.

human enterprise and universities are society's primary custodian of this activity. Anything I say about new research goals is supplementary to the primary goal of basic research and no substitute for it.

Applied research, although sometimes looked upon by academics as being somehow inferior, requires in fact the same high level of competence and training as basic research if it is to be performed well. Universities in Canada are giving more recognition to applied research than in earlier years, especially in the professional faculties. This is demonstrated by the strengthening of clinical investigation in medicine, the growing commitment of engineering schools to research, the interest of law faculties in research related to law reform, increasing attention to urban problems and numerous similar developments. Such developments should be welcomed and encouraged, not at the expense of proper attention to basic research, but as a way in which universities can more productively fulfil their role as a critic of society.

Applied research in modern society can be performed by individuals or small groups in ways which parallel the usual performance of basic research. It can on the other hand be undertaken as large-scale organized research involving major commitments of manpower and resources. This type of mission-oriented research if supported by government represents an approach chosen to achieve some goal considered by government

to be desirable; in short it represents an approach to a social objective. Such research has been extremely limited in Canadian universities but it is appearing and it is likely to grow.

There is no reason to believe that basic, applied, and large scale organized research will not continue in the universities. Yet, it is highly likely that the relative emphases will change.

The pressures will grow for relevance — from the public, from government, and not least from students and faculty. Unfortunately the cry for relevance often is being translated to a demand that universities operate as political forces seeking to impose their particular notions of utopia on a reluctant society.

The way in which universities can best respond to the expectation that they should have a social conscience is through a new approach to research. They need to develop organizational skills to bring their specialized resources to bear on complex real problems of society. Such problems are numerous and will represent a major preoccupation of post-industrial society. Currently they include such diverse issues as environmental pollution, delivery systems for health care, improving upward mobility for disadvantaged groups, crime and rehabilitation, energy policies, transportation systems, etc. Current efforts by universities in all these areas tend to be fragmented and partial. Obviously comprehensive approaches cannot be developed by individual investigators; but the com-

posite resources of universities, if organized to do so, could provide answers to many of these great problems. The task in most cases will need to engage the capacities of a wide variety of specialists drawn from the sciences, social sciences and the professions. The solutions generated by universities in this way will surely increase the relevance of universities; at the same time society will be provided with better ways of dealing with its problems. Moreover, the universities can thus serve society better without destroying themselves by becoming political instruments.

Universities in the future therefore are likely to develop new forms of interdisciplinary organizations which may be institutes or centres or task forces or consortia designed to provide answers to major complex problems of society. At the same time they must maintain their traditional roles in teaching and basic research; if they are careful in their choices and true to their primary mission, the new role can serve to enrich and strengthen them. The fact that universities have not yet marshalled their strength to seek solutions to major social problems merely illustrates a fundamental obstacle to progress.

It is the fragmentation of our approach. As *Fortune* put it, "in modern society the principle of fragmentation out-running the principle of unity, is producing a higher and higher degree of disorder and disability." Somehow we must learn to examine issues in their totality, even though we have

organized our society to deal with problems in splendid isolation. Highways departments pay scant attention to the ecological effects of their engineering. Public housing authorities have built with little thought for the effect on social conditions which their programs have produced; the poor have remained poor. Power authorities have provided the energy without worrying about the pollution they have created. Health personnel have concerned themselves about the individual patient and have ignored the system. This compartmentalization has been convenient, but it has created men with a limited appreciation of the interrelationships of knowledge and action. We have become more and more specialized and in the process we have become poorer generalists. This it seems to me is what students are telling us when they complain about the lack of relevance in the universities. It is not a rejection of specialism but a conviction that education must transcend specialism and produce citizens who are not merely skillful but are wise. Among the attributes of wisdom is the capacity to integrate, to appreciate relationships and to make judgments based on a genuine concern for human welfare.

John Gardner has written of the necessity for renewal in societies and men. He said: "Every society must mature, but much depends on how this process takes place. A society whose maturing consists simply of acquiring more firmly established

ways of doing things is headed for the graveyard — even if it learns to do those things with greater and greater skill. In the ever-renewing society what matures is a system or framework within which continuous innovation, renewal and rebirth can occur.”

We must learn to take a new step in managing the affairs of men. We must each learn to think more broadly about how our individual efforts fit into the total mosaic of society. Each of us must learn to think of his activity in relation to all the demands and all the priorities for a society capable of renewal. We must each contribute to placing our efforts in proper perspective and to assigning fair priority and weight to those efforts. We must reject lobbying for limited objectives in favour of lobbying for an integrated set of objectives representing our best judgments as both specialists and generalists. We must redesign our institutions to give them youthful vigour and motivation. We must concern ourselves with the capacity of our institutions to get on with the job. If as in many cases they are showing more concern for form than substance, more respect for tradition than for achievement, then we must not be afraid to seek ways of reforming them to permit them to do those things which need to be done.

We must apply our vast technological capacity and our growing knowledge of behaviour to the priorities that can turn us toward human fulfilment. The university has the opportunity of leading the way.

UNIVERSITY STUDENTS

LOOK AT PLANET EARTH (I)

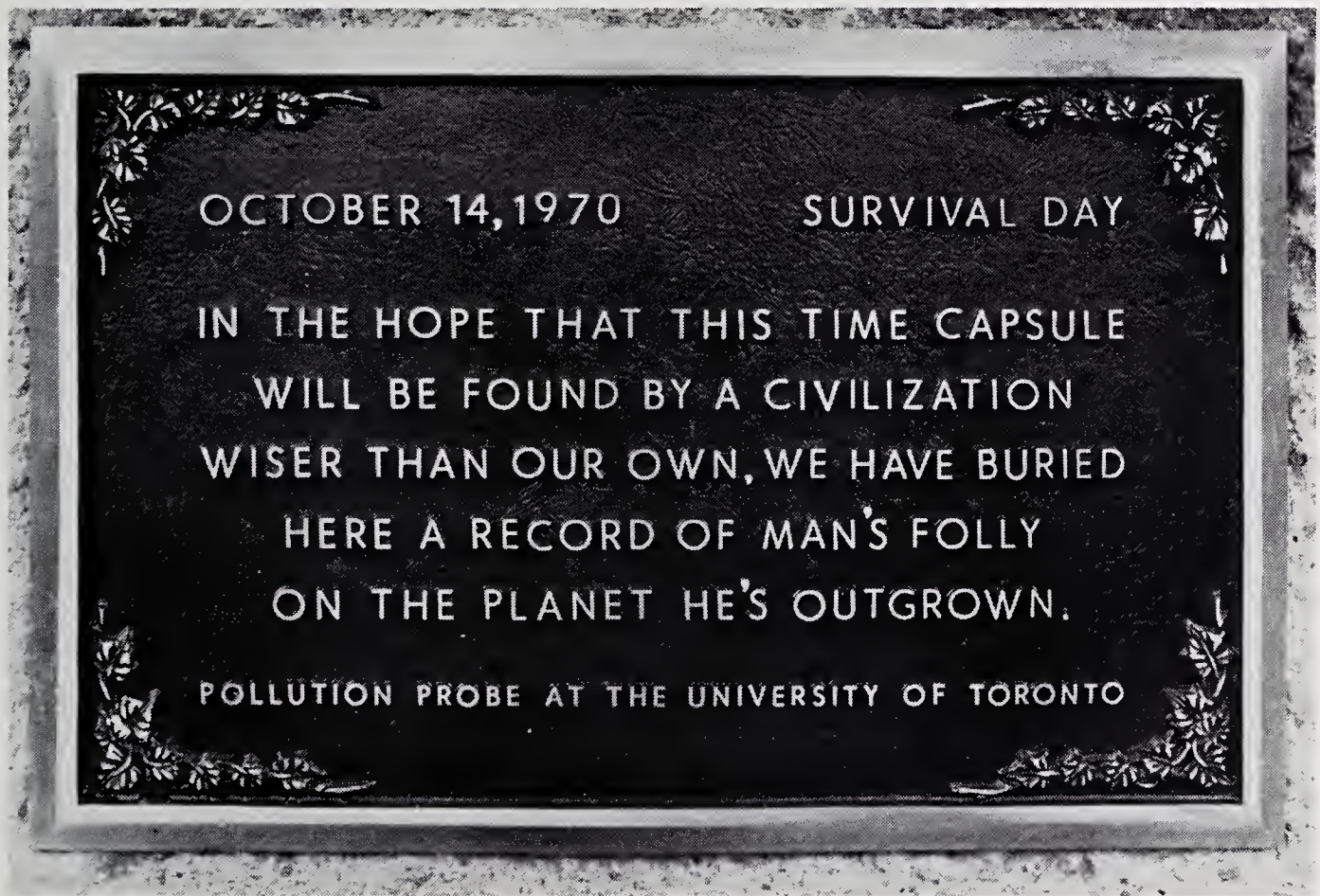
A student as our

THE “revolutionary politics” of the past few years have tended to conceal a very real resurgence of legitimate activism among moderate students. Instead of the ill-defined and dubious adherence to the revolution and the working class among the New Left, the new reformers on campus are bearing down on real and substantial problems that involve everyone: pollution, over-population and the unhindered growth of the automobile in our society.

Almost concomitant with this new development is the disavowal by legitimate reformers of the tactics of the extremists, which in the past have more often resembled the mass expurgation of hated bourgeois values than any valid exercise in social reform. Indicative of this disavowal has been the steady undermining of extremist strength on the Student Council, where liberals and conservatives now predominate. But student politicians have not become reactionary. They have strongly supported the new reform groups that attack in a decisive and legitimate manner.

JOHN AYRE, in his fourth year at Victoria College (Social Anthropology) and a former editor of *Acta Victoriana*, writes about Zero Population Growth, Pollution Probe and the effort to "Stop Spadina"

puts the case for reform new campus activists see it



The New Left and the Maoists have labelled the efforts of the new groups as tokenism because they say the reformers are merely attacking effects and not the cause, which, to their eyes, is the "conniving, fascistic corporate elite." In fact, the Maoists have even tried to break up a meeting

of Pollution Probe on the grounds that the Probe was a "servant of capitalism."

In a stark contrast to the instability and the ineffectiveness of the far left are the unyielding and rational attacks of the new reformers who have rediscovered the finer (and legiti-

mate) arts of litigation, journalistic muckraking and the political organization of citizens' groups. Recent successes in the United States by such people as Jane Jacobs and Ralph Nader illustrate the effectiveness of these tactics. The reformers are finding that corporations are vulnerable to public opinion and decisions of the courts. The new reformers believe they have rediscovered the power of an organized and motivated populace to reform its social and physical environment through the democratic process.

Pollution Probe, Zero Population Growth and Stop Spadina Save Our City Co-ordinating Committee (SSS-OCCC) are all located in or near the University and receive much of their support from university students and faculty. The membership of such groups is an interesting mosaic of leftists, liberals and conservatives and attracts students from nearly all the disciplines. Their offices in old houses around the campus have shelves stacked with mimeographed flyers and newsletters. On the walls are the inevitable posters and notices. Workers have an impoverished but vital look about them. As a group they represent one of the most vital and rationally oriented social movements to appear on campus in many years.

Pollution Probe

A talk with a member of Pollution Probe about the state of the modern city will yield terms like "behavioural sink" and "the uncontrolled cancer of

Progress". The "behavioural sink" is a term sometimes applied by social scientists to the conditions that develop when research animals are thrown together in a noisy crowded environment. Usually, under these conditions, there is a rampant growth of criminal and social deviance, of neurotic and inefficient behaviour.

Human examples of the way laboratory animals react are common in downtown city areas where crowding and pollution are having pronounced effects on the health and morale of urban dwellers. The statistics Pollution Probers cite to support their arguments are frightening. Many Probers are students in the natural and social sciences: their studies reveal what we are doing to ourselves by allowing noise, water, air and population pollution to continue unabated.

The general notion expressed by most in the Probe is that the whole progress ethic will have to change—that society will have to re-order its priorities, its life style and its habits to save the social and physical environments. Bob Spencer, a coordinator for the Probe, said, "We're trying for a whole new way of life based on zero population growth and zero economic growth."

This is a heretical notion in high-growth communist and capitalist societies. The idea that growth in population and the economy is good is firmly entrenched. It is dangerous because it allows for no other priority.

What amazes and frustrates Probers is that so many people don't really

care about what they are doing to themselves and their environment. They are too attached to their cars to worry about the pollution they're responsible for. Their multifarious electrical appliances make it necessary to burn coal at the generating stations with more pollution as a by-product. There is the ironic example of the air conditioner flushing out the bad air that it has created by its own operation.

The Probe was started in February 1969 after *The Varsity* published a number of articles about pollution in the Dunnville, Ontario, area. Under the leadership of Dr. Donald Chant, head of the Department of Zoology, it has grown into an active organization of 1,500, with a full-time staff. The Probe is dependent on outside financial aid from corporations, the government and individual donors to keep going.

Last summer, grants of \$150,000 from Labatt's and \$25,000 from the Ontario Water Resources Commission allowed a large staff of students to be employed to check pollution in the province. Eaton's provided a large exhibit area in their main store for the dissemination of information and ideas about pollution to the general public. Eaton's let the Probe give its purchasing agents talks on packaging (a great source of waste) and on detergent pollutants: the Probe hopes to see more of this work done with the people who are most responsible for determining what is to be placed in the stores and in what form. Vickers

and Benson provided free advertising services.

Essentially the tasks of the Probe are to find out the sources and reasons for pollution, to put legal and political pressure on offenders, and to educate the public in the dangers of pollution and in the methods that they themselves can use to fight it. To find out the sources of pollution, the Probe has been sending out teams to test water in the lakes, rivers and beaches. Research is being done to determine the phosphate content in detergents which causes the growth of algae and the subsequent oxygen starvation in the water.

A great deal of importance is put on the necessity of pressing responsible government agencies to prosecute offenders. Probe often lobbies in the Ontario legislature to work for favourable anti-pollution laws. Faced frequently with the inadequacy of law enforcement or the simple lack of laws, the Probe has been contemplating the use of civil lawsuits in which citizens or citizens' groups would sue offending companies for damages caused by pollution. Once the precedent is set, the door will be open to an unlimited number of suits against polluters by citizens.

The problem of educating and motivating an apathetic public is perhaps the most important task. The Probe is seeking to convince people of the irreversible and dangerous effects of all kinds of pollution on the quality of their life and happiness. The Probe then tries to show them how pollution

may be stopped through litigation and political action. One of their mimeographed information sheets is simply a reprint of the Toronto city bylaw against loud noises. Once informed of the law, the citizen can then act against offenders.

Zero Population Growth

"If current trends should continue, which they cannot, Calcutta could have 66 million inhabitants in the year 2000."—Paul Erlich, *The Population Bomb*

Members of the Z.P.G. have a habit of landing such statistics on you without warning. The thought of 66 million people concentrated in one city area is staggering. Some of even the safest predictions of the population ecologists have an air more of science fiction than of reality. Yet, given the antiquated notions of population growth by most people of the world, members of Z.P.G. say that the possibility of mass starvation and societal breakdown in the underdeveloped countries is imminent if the population growth is not stopped. It is of such a possibility that the Z.P.G. hopes to educate the public. Even in our own area of the world, we can expect the population to double by the end of the century if the current rate of growth continues. With the present crowding of the cities, parks and resort areas, the thought of such a population expansion within 30 years is not in the least encouraging or welcome. Again we think of the "behavioural sink."

The Z.P.G. chapter at University of

Toronto was started last March by Professor Chris Plowright of Zoology. Because of the summer hiatus, most of the first members were off campus, some as far away as Newmarket and Oshawa.

The Z.P.G. movement hopes to break through the myths and taboos surrounding sex and the family. A primary aim is to disseminate birth control information among the general public so that couples will know how to rationally control the number of children in their families. Their overall aim is to make acceptable the idea that no family should have more than two natural children. If every couple did this, the birth rate would eventually become stable, although the population would continue to increase until the year 2000 when both population and birth rate would be stable. Z.P.G. concentrates much of its energy on trying to educate people to shift their notions as to what constitutes a family of proper size and to the effects on society and the integrity of the family institution itself if population continues to grow at the present rate.

Until last year, dissemination of birth control information was a criminal act punishable under federal statutes. Because of recent legislation, however, Z.P.G. groups have been able to press for wide-spread education. Johanna Thompson, a full-time volunteer for the Z.P.G. group at the University, said they are trying to convince pharmaceutical companies to step up public advertising of contra-

(Continued on page 126)

TOWARDS A BETTER WORLD . . .

Leonard Bertin, whose forte is making technology and science understandable to the layman, reviews 54 investigations now going forward at the University of Toronto in a united, inter-disciplinary attack on problems associated with our environment

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Towards a Better World

THE ENVIRONMENTAL research umbrella is as wide as the world. Under it are human interactions of all sorts, animal interactions, human-animal interactions — all that man does to his surroundings and the subsequent repercussions — all branches of engineering and all branches of science, the social sciences, even languages. Law, medicine, sociology, criminology, psychology, geography are among the disciplines involved.

At University of Toronto the breadth and depth of scholarly interests and a strong research tradition have sparked many investigations into environmental problems. During the last two years, public interest in the University's continuing program has been stimulated by a new awareness of dangers man has created for himself on land and sea and in the very air he breathes.

The U of T Environmental Sciences and Engineering program is administered by an inter-disciplinary Shaping Committee (see facing page). Secre-

tarial and library services and experimental, office and other facilities are available. Although faculty and graduate students retain their primary departmental affiliation, close inter-disciplinary contact is encouraged by seminars and courses. A broad program of education and communication is pursued, multi-disciplinary research projects are organized and supported.

A special inter-disciplinary sequence of courses has been established at the undergraduate level. Students are advised to combine these with various courses in the Natural Sciences, Life Sciences and Social Sciences. At the graduate level, 47 courses and half-courses are offered. The School of Graduate Studies has set March 15 as the final date for receipt of applications for September registration.

A broad view of research going forward is provided in the following pages by Leonard Bertin, Science Editor in the University's Department of Information. He describes 54 projects in simple terms.

SEASONAL LEVELS OF POLLUTION IN THE CREDIT AND HUMBER RIVERS

A STARTING POINT in cleaning up our rivers is to determine accurately their present state and the way this is affected by the seasons. To this end, a multi-disciplinary group has been taking samples from the Credit and Humber Rivers at regular intervals throughout the winter, spring and summer. In this way, they have established a number of physical, chemical and biological indices. These have included assays of algae, in relation to phosphate levels, and counts of coliform bacteria in relation to total carbon. Both have also been related to water temperature and rates and volume of flow.

Principal investigators: Professor J.R. Brown (School of Hygiene), Professor T.C. Hutchinson (Department of Botany) and Professor P.H. Jones (Department of Civil Engineering)

MATHEMATICAL MODEL FOR THE BIOLOGICAL TREATMENT OF WASTE WATER

A MODEL is being developed to simulate mathematically the hydraulic and biological factors that apply in the design of efficient biological waste treatment plant. The research has been going on for two years and the hope is that a more rational approach will develop.

Principal investigator: Professor P.H. Jones (Civil Engineering)

PSYCHROPHYLIC BACTERIA IN ACTIVATED SLUDGE PLANTS IN COLD CLIMATES

UNTIL RECENTLY, biologists have virtually ignored a group of bacteria known as psychrophiles (cold-lovers), except insofar as they affect the low-temperature storage of food. Now, scientists and engineers are trying to determine the role they play—or could play—in the degradation of organic wastes in northern climates, and particularly in Canada.

Principal investigator: Professor P.H. Jones (Civil Engineering & Microbiology)

LOW TEMPERATURE AEROBIC DIGESTION OF ACTIVATED SLUDGE

IN THEORY, the digestion of activated sewage sludge is considerably more efficient when aerobic (oxygen-dependent) bacteria are involved than it is when the agents of break-down are anaerobic bacteria that perform in the absence of oxygen. For this reason, attempts are now being made to establish the rates of sludge break-down at various temperatures.

Principal investigator: Professor P.H. Jones (Civil Engineering & Microbiology)

EFFECT OF LOW TEMPERATURE ON WATER AND WASTE TREATMENT

IN A RELATED research project, Professor G. W. Heinke of the Department of Civil Engineering has set out to collect and analyse data from 150 pertinent agencies in Canada and the northern United States that reflect the relationship between low temperature and performance of various units. In addition, the group has been collecting data on raw sewage temperatures, biological oxygen demand, suspended solids removal, and the food/microorganism ratio and detention times for twelve specific plants over periods of from one to three years. The aim of future work will be to determine the effect of low temperature on plant design and operation of plant and to develop potential corrective measures for any adverse effects.

Principal investigator: Professor G.W. Heinke (Civil Engineering)

PARTIAL NITROGEN AND PHOSPHORUS STRIPPING

IN THE KNOWLEDGE that it is completely impossible to prevent phosphorus and nitrogen compounds from reaching public waste disposal systems, engineers have been looking for ways to reclaim these two elements at a fairly nominal cost. The process essentially takes advantage of the streams that already exist within a municipal waste treatment plant which contain high concentrations of nitrogen and phosphorus.

Principal investigator: Professor P.H. Jones (Civil Engineering)

BIOLOGICAL TREATMENT OF HIGH STRENGTH

ANIMAL WASTE BY OXIDATION DITCH

IN ONE of several full-scale research projects on the disposal of sewage, an attempt is being made to determine the optimum design and operating conditions for the treatment of high strength liquid manure from a breeding establishment. Foaming and odor control are two of the most important phenomena that are presently being correlated with such parameters as mixed liquor suspended solids, loading, acidity, sludge age, velocity and temperature. The program has been underway since May, 1970, and is expected to continue for another year.

Principal investigator: Professor P.H. Jones (Civil Engineering)

DIRECT AIR OXIDATION OF ORGANIC MATERIALS

IN WASTE WATER

ONE of the simplest ways of breaking down organic waste is to promote speedy combination with oxygen. In an attempt to reduce "residence time" of sewage to a few hours, a study is being made of all aspects of the problem, including reaction rates, fluid flow rates, the effect of various reactor shapes and the possible role of various types of electromagnetic radiation, such as visible light, infra red or ultra violet, in speeding chemical action.

Principal investigator: Professor D. Mackay (Chemical Engineering)

DEVELOPMENT OF NON-FERTILIZING DETERGENTS

THE FACT that phosphates, a major constituent of commercial synthetic detergents, promote growth of algae in shallow waters has now been well established. However, a good detergent is a well-balanced mixture of numerous constituents that perform between them many functions and substitution of one of these may not be a simple matter. As a necessary prelude to replacing phosphates with a less troublesome alternative, a careful study has been undertaken of the precise roles of all the various constituents. It is also essential to learn what may happen to such components later, what chemical changes they may undergo, when they come into contact with various biological systems, including that complex chemical factory, the human body.

Principal investigator: Professor P.H. Jones (Civil Engineering)

THE EFFECT OF COMMERCIAL DETERGENTS

ON ALGAL GROWTH

THE WAYS in which phosphates affect the growth of algae in rivers and lakes is by no means fully understood. In an attempt to provide some of the missing information, phosphate-free detergents, as well as detergents of high (75%), medium (44%) and low (27%) phosphate content are being investigated to determine their respective effects upon the growth of the following green algae: *Gonium*, *Chlamydomonas*, *Chlorella*, and *Scenedesmus*. Pure cultures are maintained under fluorescent illumination with alternating 12-hour periods of light and darkness.

Principal investigator: Professor J.F. Morgan-Jones (Botany)

THE CHEMISTRY OF LAKES

CHANGES in the chemical composition of lakes during a period of artificial fertilization are being investigated, with special emphasis on Muskoka, Parry Sound and Haliburton lakes. Also, mainly in conjunction with T. Flemsburg of Lund, Sweden, relationships between chemistry and aquatic plants in lakes and mires are being studied.

Principal investigator: Professor J.H. Sparling (Botany)

THE EFFECT OF TOWN SITE LAYOUT ON COST

OF UTILITIES IN NORTHERN COMMUNITIES

MANY NORTHERN COMMUNITIES have been laid out or have simply grown with little consideration being given to future servicing requirements. The cost of servicing them has been further increased by dispersion. With a view to arriving at economical town planning for future settlements, two communities, Inuvik and Frobisher Bay, are being studied to establish comparative costs of various systems.

Principal investigator: Professor G.W. Heinke (Civil Engineering)

MUNICIPAL SERVICES FOR SMALL NORTHERN COMMUNITIES

AS AN EXTENSION of the preceding study, an attempt is being made to develop improved, but low cost, municipal services for small Arctic and Sub-Arctic communities. Design, operation and maintenance problems of services in ten communities of the Mackenzie Valley will be studied in detail. A model will then be developed for one of these communities, probably Fort Good Hope.

Principal investigator: Professor G.W. Heinke (Civil Engineering)

RELIABILITY OF WASTE WATER TREATMENT PLANTS:

DEVELOPMENT OF CRITERIA

INDUSTRIAL PLANTS frequently have specialized problems associated with the treatment of waste waters and Professor J. Ganczarczyk notes that these are often complicated by fluctuations in flow and loads, poor design and poor operation. To assess the extent of the problem, operational personnel of characteristic plants are being interviewed and records collected. Modern statistical techniques will be used to evaluate the resulting information.

Principal investigator: Professor J. Ganczarczyk (Civil Engineering)

MECHANISM OF UPTAKE OF LIGNINS FROM PULP MILL

EFFLUENTS BY MEANS OF ACTIVATED SLUDGE PROCESS

ANOTHER PROBLEM that has interested Professor Ganczarczyk is that of lignin, a troublesome and difficult-to-handle constituent in the effluent water from pulp mills. Lignin is broken down to some degree by the same activated sludge processes, relying on bacteria, that are used in sewage treatment, and the purpose of current work is to learn more about the way this happens, in the hope that the process may be further encouraged.

Principal investigator: Professor J. Ganczarczyk (Civil Engineering)

SOLVENT EXTRACTION OF INDUSTRIAL WASTE WATERS

PHENOLIC COMPOUNDS and other dissolved hydrocarbons represent a particularly objectionable form of waste water pollution because their presence can be tasted, even when the concentrations are minimal. One approach to their extraction that is being investigated at U of T is based on solvents that have a greater affinity than water for the pollutants.

Principal investigator: Professor D. Mackay (Chemical Engineering)

FOAM EXTRACTION OF DISSOLVED IONS FROM WATER

ANOTHER APPROACH to the removal of relatively low concentrations of polluting elements is the use of chemically active foams. Comparisons are being made of the relative efficiencies of selected compounds.

Principal investigator: Professor C.R. Phillips (Chemical Engineering)

ADSORPTION OF CHEMICAL POLLUTANTS ON PARTICULATE MATTER

UNDER certain conditions, particulate matter of soils, sediments and natural water systems show an affinity for some classes of chemical pollutants, such as toxic heavy metals, agricultural chemicals and hydrocarbon oils. A wide variety of highly sophisticated analytical techniques are being used to investigate this phenomenon, particularly as it relates to the uptake and release of mercury by sediments from Ontario water bodies such as the St. Clair River. Techniques include zonal centrifugation, nuclear activation analysis, X-ray and electron diffraction and Auger electron spectroscopy, and the use of radioactive tracers.

Principal investigators: Professors C.R. Phillips, R.E. Jervis & M.R. Piggott (all Chemical Engineering)

NUCLEAR ACTIVATION TECHNIQUES FOR DETECTION AND CONTROL OF TRACE MERCURY POLLUTANT IN WATER BODIES

UNDER the aegis of Dr. R. E. Jervis, chemical engineers of the University of Toronto have become widely acknowledged as world leaders in the development of a new and very precise analytical technique, known as neutron activation. The potential applications of this technique are innumerable but none of them has proved more exciting or relevant to human well-being recently than the detection and measurement of trace amounts of mercury, a powerful nerve poison, in fish and plant life of Canadian and U.S. water bodies. An extension of this work has brought to light the fact that pollution by mercury is virtually universal in Canada.

Principal investigator: Professor R.E. Jervis (Chemical Engineering)

TRACE MERCURY IN ENVIRONMENTAL MATERIALS

IN AN EXTENSION of the above work, analysis of a wide range of samples of Canadian foodstuffs, submitted by the Department of National Health and Welfare Food and Drug Directorate, has brought to light the fact that virtually no Canadian food is immune to this contamination. Samples checked included game birds, eggs, fresh water fish, cereals, vegetation, water and air particulates and human head hair. The methods employed are so accurate that concentrations of only several parts in a thousand million can be detected. The results have shown that potential health hazards do exist.

Principal investigator: Professor R.E. Jervis (Chemical Engineering)

NUCLEAR CHEMISTRY AND RADIOCHEMISTRY

THE TECHNIQUES of neutron activation and radio chemistry mentioned earlier have very wide fields of potential application in biomedical studies, in environmental pollution control and in industrial process control as well as in scientific crime investigation, because they are applicable to a very large range of elements, including arsenic and cadmium. Research is being conducted with the aid of the 15 million electron volt neutron generator at the U of T and the nuclear reactor at McMaster University, Hamilton. The Faculty of Applied Science and Engineering expects to acquire a nuclear reactor on loan from Atomic Energy of Canada Limited and install it in the Environmental Sciences and Engineering centre in the Mill Building.

Principal investigator: Professor R.E. Jervis (Chemical Engineering)

STUDY OF THE EFFICIENCY OF AIR SAMPLING FOR MERCURY COMPOUNDS

RADIOACTIVE TRACERS and the technique of neutron activation will be used to study the efficiency of various procedures for trapping trace mercury contamination from polluted air.

Principal investigator: Professor R.E. Jervis (Chemical Engineering)

THE INFLUENCE OF THE CONSERVATION MOVEMENT ON FOREST MANAGEMENT POLICY IN ONTARIO

IN A STUDY of the effect of the conservation movement as represented by various organizations in the field on forest management in the Province, a group in the Faculty of Forestry has proceeded along four lines of inquiry:

- (1) An assessment of management techniques available for Crown Lands;
- (2) Interviews of executives of conservation organizations;
- (3) Interviewing a sample of conservation organization memberships; and
- (4) An assessment of changes in conservation policy of various conservation organizations over the last decade.

Principal investigators: Professor D.V. Love (Faculty of Forestry) and Professor D.A. Morrison (State University of New York, Syracuse)

PHYSICAL AND BIOLOGICAL EFFECTS

OF HYDROCARBON OILS SPILLED ON WATER AND ICE

THE POTENTIAL HAZARDS to Canadian ecology represented by major spills or leaks of oil have prompted a number of investigations. In one multi-disciplinary project, investigators from the School of Hygiene, the Department of Botany and the Department of Chemical Engineering, working in collaboration with the Great Lakes Institute of the University of Toronto, are jointly involved. Physical studies are being conducted into the spreading, dissolution, diffusion and evaporation of hydrocarbons on water, both in the laboratory and on half-acre ponds belonging to the Institute, under normal, freezing and thawing conditions.

In a parallel biological study, algal species are being observed as to their tolerance of various fractions of crude oil, and their rate of recovery after spills. The nature and mechanism of oil toxicity are also being investigated, while a further project is looking into the fate of chlorinated hydrocarbon pesticides (such as DDT) under oil spill conditions.

Principal investigators: Professor J.R. Brown (School of Hygiene), Professor J. Hellebust (Botany), Professor T.C. Hutchinson (Botany), Professor D. Mackay (Chemical Engineering), Professor C.R. Phillips (Chemical Engineering), Professor T. Sawa (Botany)

MICROBIAL OXIDATION OF HYDROCARBONS

GREAT INTEREST has been shown recently in many parts of the world in the possibility of using bacteria to create high protein foods from hydrocarbons. Activity at University of Toronto has focussed chiefly on the so-called normal alkane hydrocarbons, the paraffin family that range from methane gas, with its one carbon atom, to waxes with twenty or more carbon atoms in the molecule. The resulting single-cell proteins offer good animal feed supplements, while knowledge gained may throw light on natural processes of hydrocarbon breakdown. The project is a multi-disciplinary one involving the Departments of Biochemistry and of Civil Engineering, as well as that of Chemical Engineering.

Principal investigators: Professor C.R. Phillips (Chemical Engineering) and Professor M. Wayman (Chemical Engineering)

RAINFALL-RUNOFF RELATIONSHIPS

THE RELATIONSHIP between the amount of precipitation and the resulting runoff is a matter of vital importance to those who are attempting to calculate the nation's resources. A large number of factors are involved and a group is attempting to represent these in a way that will permit estimates to be made.

Principal investigator: Professor V. Klemes (Mechanical Engineering)

WATER RESOURCES ENGINEERING

IN ANOTHER PROJECT that is being undertaken in conjunction with the Department of Geography, field data for a representative watershed is being assembled and analysed with the aim of developing a computerized model to simulate the behavior of water in river and lake systems.

Principal investigator: Professor V. Klemes (Mechanical Engineering)

THE CAUSES AND EFFECT OF SMELTER POLLUTION ON TERRESTRIAL AND AQUATIC VEGETATION AT SUDBURY, ONTARIO

THIS STUDY aims at establishing the relative importance of metallic contamination from smoke stacks, compared with sulphur dioxide. The area is heavily contaminated with toxic levels of metals, such as nickel, copper and cobalt. In lakes within a few miles of the smelters, metal poisoning appears to be more significant than contamination by sulphates. The team is also looking for examples of the development of genetic resistance and the possibility that, when sulphur dioxide and metal contamination occur together, the combined effect may be worse than the sum of individual effects.

Principal investigator: Professor T.C. Hutchinson (Botany)

STUDIES OF WOODLAND FLORA

NOT ALL "contamination" is man-made and a group in the Department of Botany is studying woodland trees and herbs that have managed to grow on so-called serpentine or periodite soils that are naturally toxic by reason of low calcium levels and sometimes very high and poisonous levels of chromium and nickel.

Principal investigator: Professor J.H. Sparling (Botany)

PERIODICITY IN WOODLAND FLORA

THERE ARE some 30 species of woodland flora in Ontario and it is well known that some flourish in the early spring when temperatures are low but the lack of tree cover permits high light intensities. Others thrive under darker conditions of summer when leaves of the forest canopy have expanded but when temperatures are higher. A team is studying the varying degrees of physiological adaptation and the underlying reasons. A further source of interest is search for factors that determine the time and degree of expansion and senescence.

Principal investigator: Professor J.H. Sparling (Botany)

STUDIES OF THE ECOLOGY OF ONTARIO PEATLANDS

PEATLANDS are of great importance to Ontario ecology and are the subject of a number of studies. In the Department of Botany, one group is looking at six aspects of the problem:

- (a) The effects of water movement and water table fluctuations on the chemistry of mire water and peats, especially ferric-ferrous, sulphide and heavy metal concentration changes associated with aeration and acidity;
- (b) Rates of production of sulphide in peat and its effects on the growth on species of the grasses *Glyceria* and *Calanagrostis*;
- (c) Long term changes in the productivity of wetlands;
- (d) The effects of heavy metal additions to the growth of plants in extremely calcareous fens;
- (e) The rates at which heavy metals are incorporated into mires that are dependent only on precipitation for water, as compared with those that derive water from mineralized soils; and
- (f) Studies of ice and frost phenomena in peatlands.

Principal investigator: Professor J.H. Sparling (Botany)

**ANTI-MICROBIAL COMPOUNDS OF HOST ORIGIN
FORMED AFTER INFECTION, AND THEIR RELATION
TO PLANT DISEASE RESISTANCE**

T^{HIS} STUDY involves the isolation and identification of anti-fungal compounds from infected plants, their effect on growth and metabolism of micro-organisms and the factors affecting their production. The long-range objective of this work is to use the knowledge gained about such compounds in the biological control of plant diseases.

Principal investigator: Professor V.J. Higgins (Botany)

**DECOMPOSITION OF PLANT ORGANIC MATTER
IN SOIL AND EFFECTS ON PLANTS, PATHOGENS
AND DISEASE EPIDEMIOLOGY**

T^{HIS} PROJECT deals with the decomposition of plant-derived organic matter, the various by-products and their effects on plant growth. Many of the findings are applicable in the area of degradation of solid wastes.

Principal investigator: Professor Z.A. Patrick (Botany)

**THE EFFECT OF NUTRITIONAL DEFICIENCIES IN PLANTS
ON THEIR ABILITY TO SURVIVE DROUGHTS**

T^{HE} PHYSIOLOGICAL and biochemical mechanisms by which drought resistance occurs in a number of species are being studied in relation to deficiencies of nitrogen and phosphorus and to speckling that has been induced by lime.

Principal investigator: Professor T.C. Hutchinson (Botany)

THE EFFECT OF TRAFFIC DENSITY ON LEVELS OF LEAD, CADMIUM AND SULPHATE ACCUMULATION IN SOIL AND VEGETATION

SEVEN SAMPLE SITES in Metropolitan Toronto and rural areas are being studied and the levels of lead, cadmium, sulphate and chloride in the soil and in vegetation close to the highways are being determined. Correlations are being established between these data and distances from highways and traffic densities.

Principal investigator: Professor T.C. Hutchinson (Botany)

STUDIES OF THE PROPAGATION, CARE AND MAINTENANCE OF TREES UNDER URBAN CONDITIONS

THE SHADE TREE Research Laboratory at University of Toronto provides excellent facilities for physiological studies relating to entomology, pathology and urban forestry. Although some of the projects undertaken involve a single discipline, the over-all approach is multi-disciplinary, representing the fields of Botany, Chemistry and Zoology. The main emphasis at present is on (1) the selection and propagation of native trees, including production of the booklet "A Superior Shade Tree Programme for Ontario"; (2) Studies on the bio-synthesis of phenolic heartwood substances in pine and elm; the physiology of Dutch elm disease and its vectors; and (4) the biological properties of volatiles emanating from dead wood. One result of this work has been the discovery that there is a correlation between the resistance of some trees to disease and the amount of phenolic substances in the heartwood.

Principal investigators: Erik Jorgensen, W.V. Baker, W.A.G. Morsink and D.N. Roy, all professors in the Faculty of Forestry

STREAMFLOW-CONTROLLING STORAGE RESERVOIRS

WORK is being done in modifying some of the existing models of streamflow control as it relates to reservoirs, to make them more realistic and applicable to engineering practice. One part of the research is aimed at the inclusion into models of time-dependent properties of reservoir input; the other is concerned with the possibility of building in more flexible operating rules and obtaining wider spectrum of reservoir performance characteristics than is currently possible. The research is computer-oriented and extensive use is made of matrix and Monte-Carlo methods.

Principal investigator: Professor V. Klemes (Mechanical Engineering)

STRATIFIED FLUID FLOWS

THIS RESEARCH EFFORT incorporates several rather diverse topics, ranging from wave phenomena to diffusion effects in density-stratified fluids. The waves that are of interest appear in the atmosphere and below the surface of the ocean while the diffusion problems arise in air and water pollution. Associated topics include the propagation of sound waves in stratified fluids and the investigation of methods of solving singular integral equations that arise in fluid dynamics.

Principal investigator: Professor J.P. Dugan (Mechanical Engineering)

INDUSTRIAL AERODYNAMICS

THIS FIELD OF RESEARCH is concerned with the action of wind on buildings and structures, and the dispersion of smoke plumes emitted from roof-mounted chimneys. The latter type of studies are not only performed on models of individual buildings but also on replicas of whole city blocks. Direct action of wind on buildings is investigated both under static and dynamic conditions. Programs currently underway deal with static wind loading on high-rise buildings, and flow-induced oscillations of elastically restrained cylinders. Of special concern is the perfecting of similitude in experimental building dynamics.

Principal investigators: H.J. Leutheusser, I.G. Currie, J.F. Keffer, and D.S. Scott, all professors of Mechanical Engineering

SHOCK TUBE STUDIES OF NITROGEN OXIDE KINETICS

APOTENTIALLY TROUBLESOME FORM of air pollution stems from the chemical combination of atmospheric oxygen and nitrogen, in some combustion situations, to form oxides of nitrogen. In this project, a shock tube and a time-of-flight spectrometer are used to study the mechanism and kinetics of the formation and subsequent reactions of oxides of nitrogen, particularly nitric oxide, under combustion conditions. The work is of particular relevance to the problem of reducing this type of pollution from stationary and mobile internal combustion engines.

Principal investigators: Professor O. Trass and Professor D. Mackay, both of Chemical Engineering

THERMAL STRUCTURE AND WATER CIRCULATION

IN LARGE LAKES

IN EARLIER RESEARCH at University of Toronto, Dr. G. K. Rodgers of the Great Lakes Institute showed that an interesting and previously unrecognized phenomenon occurs in Lake Ontario in the early spring. A mass of water more dense than water around it, by virtue of the fact that it is at a temperature ranging from 0° Centigrade to 4° Centigrade, constitutes a barrier to circulation parallel to the shore. Now, radiation, evaporation and total heat balance are being studied in the context of resultant thermal structure development. The studies are complemented by investigations of near-shore circulation and the processes which affect the physical quality of these near-shore waters.

Principal investigator: Dr. G.K. Rodgers (Great Lakes Institute)

THE PHYSICAL ENVIRONMENT AS AN ATTRACTION

AND DETERMINANT: SOCIAL EFFECTS IN HOUSING

THERE ARE innumerable aspects of the environmental problem and they involve many disciplines. In Sociology, a team is planning a long-term study of new residents in four different residential environments. The object is to assess the social impact of living in environments with major physical differences (single dwellings vs. high rise multiple dwellings, and proximity vs. distance to the city centre). Specifically, the study will focus on a number of aspects of this general question:

(1) To what extent does a particular residential environment tend to attract a particular type of resident? When selecting a new home, do people envisage how they will lead their lives after moving?

(2) To what extent does a particular way of life become pronounced in a particular physical setting? Do aspects of the environment influence what people do, with whom they do it or, all else being equal, do they merely repeat a round of life which they formerly pursued in a physically different environment?

(3) If a typical way of life emerges in a particular setting, what happens to the new resident who fails to adopt it? Does he tend to move? Does he tend to develop problems of varying degrees of seriousness? Or, on the other hand, are typical patterns only a statistical phenomenon, unrelated to successful adjustment to the residential environment?

(4) What effect does the passage of time have on people's adjustments to their environment? Does it take longer for people to adjust to some settings than to others? What problems typically emerge in specific settings during particular time periods after settlement, and could they be remedied if anticipated?

Principal investigator: Professor W. Michelson (Sociology)

SELF-CONCEPTIONS AND URBAN PARTICIPATION

BY BLACK AND WHITE ADOLESCENTS

URBAN LIFE is increasingly complicated by racial situations and a group in the Department of Sociology is trying to gain a deeper understanding of some of these problems. As part of their study, an empirical investigation is being made into the variation of urban adolescents' self-conceptions, cosmopolitanism, reference group norms and sociometric net, as varied by race, socio-economic status and racial and socioeconomic nature of school and neighborhood. Especially relevant for this program is the study of four components of cosmopolitanism: attitudinal, communicational, spatial and relational. The study, entitled: "New Dimensions of Community", is designed to:

- (a) delineate the nature and dimensions of "community";
- (b) explore the feedback relationship between "community" and "communication"; and
- (c) construct new measures of the dimensions of community.

Principal investigator: Professor B. Wellman (Sociology)

HUMAN ADJUSTMENT TO ENVIRONMENTAL HAZARDS

AS ONE ASPECT of a much wider investigation, a multidisciplinary group is studying the public awareness of and response to the air pollution index in Toronto and other Ontario cities.

Principal investigators: Professor I. Burton (Geographer), Professor A. Auliciems (Climatologist), Dr. Myra Schiff (Psychologist)

THEORY TO AID IN THE SHAPING OF URBAN ENVIRONMENT

THIS THEORY or hypothesis attempts to include the need to stress human values, such as intellectual progress of individuals, interaction between people, human evaluation of time, as guiding criteria in the shaping of an ideal urban environment. These are in addition to the usual criteria of ecological requirements and spatial arrangements.

Principal investigator: Professor A.P. Bernhart (Civil Engineering)

INVESTIGATION OF THE PRESENT LEVELS OF OCCURRENCE OF PERSISTENT PESTICIDES IN THE HOLLAND MARSH AREA OF ONTARIO

IN RESPONSE to wide public concern over possible long term effects on the Canadian ecology of widespread use of persistent pesticides, and to establish data that can form the basis for future comparisons, a multi-disciplinary group has been assessing the levels of chlorinated hydrocarbon (e.g. DDT) residues and metallic pesticides, especially copper, arsenic, mercury and lead, in the soil and crops of the Holland Marsh. These are being related to past and present practices and the results will be assessed as to their possible effects on the health of the community.

Principal investigators: Professor T.C. Hutchinson (Botany), Professor J.R. Brown (School of Hygiene), Professor R.E. Jervis (Chemical Engineering)

SURVEY OF THE LEVELS OF CHLORINATED HYDROCARBONS AND METALLIC PESTICIDES IN MIGRATORY BIRDS AT THEIR NORTHERN BREEDING GROUNDS

THE INVESTIGATION of contamination by persistent pesticides has been extended to many distant areas of the country. Strong emphasis is being placed on obtaining samples of birds, soil and vegetation from the northern breeding grounds of a number of bird species, including the North West Territories, the Yukon, Resolute. An attempt is being made to assess the relative importance of breeding ground contamination, as compared with contamination of migrational routes.

Principal investigators: Professor J.R. Brown (School of Hygiene), Professor T.C. Hutchinson (Botany)

DEVELOPMENT OF SELECTIVE ION ELECTRODES FOR THE ANALYSIS OF POLLUTANTS

IN ADDITION to the technique of neutron activation already mentioned, many other methods of analysis are being used in studying the problems raised by man-made pollution of the environment. One that has recently been tried employs the recently developed selective ion electrodes. It has been shown that, when an electric current is passed through a conductive fluid by immersing in it two electrodes, the behavior of charged components of the fluid can be influenced by careful choice of electrode materials. This phenomenon affords a method of collecting and measuring selected substances that are the object of study. This method has introduced a new dimension to the determination of a variety of potential contaminants in polluted and natural waters.

Principal investigator: Professor J.C. van Loon (Geology)

ATOMIC ABSORPTION AND ATOMIC FLUORESCENCE SPECTROMETRY IN THE ANALYSIS OF POLLUTANTS

TWO OTHER TECHNIQUES that have been used in the analysis of pollutants in the estimation of pollutants are atomic absorption and atomic fluorescence spectroscopy. In many cases, constituents in a complex solution can be determined directly without the need for time-consuming pre-treatment steps. The method has been used particularly in cases of contamination by mercury, arsenic and cadmium.

Principal investigator: Professor J.C. van Loon (Geology)

ULTRAFINE PARTICULATE AIR POLLUTANTS

THE SEARCH for fundamental knowledge about pollution problems led one group in the Department of Mechanical Engineering to theories about the behavior of very fine dusts that could have an important impact on a number of everyday industrial problems and, it is hoped, lead to safer and more effective ways of handling explosive dusts. Dr. David S. Scott was interested in the behavior of particles so small that they are subject to molecular buffeting. No longer, when they are in a high velocity draft, can they be relied upon to take the shortest path from A to B. The team is now particularly interested in the way that particle paths can be influenced by sound, and have applied this knowledge to the problems of handling dust (such as coal or wheat) so fine that it becomes an explosive hazard. Such dusts cannot for this reason be handled by some of the conventional electrostatic methods of dust removal.

As frequently happens in basic research, there have been a number of potential "spin-offs" of this work in completely unrelated fields. One dividend has been a better understanding of the behavior of sound in fog; another is a better understanding of the role of thunder in the processes of rain formation.

Principal investigator: Professor D.S. Scott (Mechanical Engineering)

ECOLOGY OF AQUATIC OLIGOCHAETA

A SIMPLY RED SLUDGE WORM has proved to be an important research tool in the hands of Dr. R. O. Brinkhurst of the Department of Zoology. He has shown that distribution and abundance of the worms, aquatic oligochaeta, provide a useful indication of the degree of pollution in a water body. His work also attempts to discover the role of worms in polluted sediments in promoting eutrofication, that is, fertilization. One objective is to assess the rate at which worms use sludge in a grossly polluted harbor, such as Toronto's, as compared with the situation in areas like the Bay of Quinte, where a whole range of pollution levels can be seen. His group have shown that reclamation of lakes after sewage disposal may be accelerated by the mineralization of sediment and the removal of oxygen-hungry material by worms. On the other hand, it can also be hindered by their ability to retrieve trapped organic matter. The study involves measuring the types of bacteria present, the types of nutrient (e.g. amino acids and sugars) present, the relationship between these and the worms, and the respiration, growth efficiency and feeding rates of worms under various conditions.

Principal investigator: Professor R.O. Brinkhurst (Zoology)

THE PHOSPHORUS CYCLE IN FRESH WATER

A PROPER UNDERSTANDING of the phosphorus cycle in fresh water is needed in order to assess the role of phosphates and other factors in the artificial fertilization of lakes and the growth of algae. A group in the Department of Zoology has been studying the chemistry of phosphorus, the uptake and release of this element by microorganisms and the feeding behavior and feeding rates of minute animals that swim in fresh waters.

Principal investigator: Professor F.H. Rigler (Zoology)

THE ENERGY FLOW IN AN ARCTIC LAKE

A UNIVERSITY OF TORONTO group has been working with others from McGill University, University of Waterloo, New York State College, Rockport, and Gull Lake Laboratories of Michigan State University on a project that aims to plot the energy flow patterns in a high Arctic Lake. The lake selected is on Cornwallis Island. Other participants are from Finland and Sweden and from the Federal Department of Agriculture.

Principal investigator: Professor F.H. Rigler (Zoology)

A PILOT SURVEY OF GLOBAL NATURAL DISASTERS OF THE PAST TWENTY YEARS

A STUDY of major natural disasters over a twenty-year period reveals 209 floods, 148 typhoons, hurricanes or cyclones, 86 earthquakes, 66 tornadoes, 32 gales and thunderstorms, 27 snow storms, 16 heat waves, 13 cold waves, 13 volcanic eruptions, 13 landslides, 10 rainstorms, nine avalanches, five tidal waves, three major fogs, two frosts and two sand and/or dust storms — an average of 31.4 disasters a year. The total loss of life over the period in these events was 441,855, or an average of 22,093 persons a year.

Principal investigator: Professor Kenneth Hewitt (Social Sciences)

WATER QUALITY AND THE HAZARD TO HEALTH: THE PLACARDING OF PUBLIC BEACHES

THE BASES FOR DECISION-MAKING in certain public health situations has been studied by one U of T group. One of the matters they looked into was that of the placarding of public beaches. Their conclusion was that “the indices that have been traditionally used as a basis for decision-making actions with respect to water pollution and health are themselves suspect”. The group found little evidence of a connection between water pollution and the incidence of disease except at levels where “aesthetic considerations could naturally be expected to reduce the intensity of bathing to the point where only the foolhardy would participate”.

Principal investigator: John M. Hewings (Geography)

Human Adaptability Project directed by a U of T anthropologist is based on Igloolik which lies 1700 miles north of the St. George Campus.

Eskimo lab is an island & its people

LAWRENCE F. JONES

THE NORTH is like a vast outdoor laboratory . . . and the pace of northern development will depend on the sort of questions the scientists in the North ask and the answers they receive."

Professor James Lotz, Ottawa anthropologist and one-time community planning and research officer in Canada's North, thus summed up the opportunity for research in the remote Arctic regions that lie above the tree-line. His statement was made two years before the launching in 1968 of the Canadian Human Adaptability Project, one of a three-part international study of Eskimos.

The Project, in which University of Toronto anthropologists, nutritionists and physiologists take a leading role, is a study within the framework of the International Biological Program, in which scientists of 60 nations are







At left is the central section of Igloolik, home of the Iglulikmiut

conducting basic research into the problems of biological productivity and human survival in a world of swift-moving technological change.

As their contribution to this world-wide inquiry, scientists from eight countries having an interest in the Arctic are engaged in work that will extend over a five-year period, of which this is the third year, studying the native people of Canada, Alaska and Greenland. Their objective, to put it briefly, is to try to find the answer to the question, "Why do people differ one from the other — why do Eskimos differ from white men?" Or, as the late Dr. Don Charles Foote, professor of geography at McGill University and formerly assistant Canadian project director, expressed it, "To what extent is human behaviour adapted to environmental stimuli and constraints?"

American scientists are seeking the answer to the question among the Eskimos of Alaska. Scholars from Denmark, Norway, Sweden, Finland, Germany and France are working with the Eskimos of Greenland. The Canadians are carrying on their research in one selected Eskimo community in their own land — the Iglulikmiut, the native people based for the most part at Iglulik, which in most atlases is spelled Igloolik. The word Iglulikmiut simply means people of Iglulik (or Igloolik) and Iglu (or Igloo) is the Eskimo word for dwell-

ing, which to white men suggests igloo, or snow house.

Igloolik, the laboratory for the Human Adaptability Project, is an island in Foxe Basin just off the northeastern tip of mainland Melville Peninsula, separated by a few miles of water from Baffin Island, and 1700 air miles directly north of Toronto. To travel from Toronto to Igloolik involves, however, a journey by air of about 2100 miles – to Montreal, then Frobisher Bay at the eastern end of Baffin Island, and on to Hall Beach, a main station (called Foxe Main) of the Distant Early Warning (DEW) Line; thence by small aircraft, if weather conditions permit, or by boat another 45 miles to the island.

Hall Beach is included in the research operation because the native community there consists of Iglulikmiut. The number of Eskimos in the two communities was about 735 in 1968 when the study was begun – about 500 of them at Igloolik, where 73 families lived. A few whites lived there too – Department of Indian Affairs and Northern Development administrators, clergy, school teachers, public health nurses, Royal Canadian Mounted Police, Hudson's Bay Company storekeepers, for example, and, at Hall Beach the Dew Line operators.

The International Biological Program chose Professor David R. Hughes, University of Toronto anthropologist, to be the director of the Human Adaptability Project. Dr. Hughes and his team first made a

feasibility study of the Igloolik Eskimos and decided that their community was best suited for the five-year study. There was in the Igloolik area a sufficient number of people to be a significant sample for research purposes. Moreover, the Iglulikmiut were in a state of transition – about half of them depended for their livelihood upon their success as hunters of caribou, seal and fish, the other half lived for the most part by sedentary jobs or upon social welfare assistance and family allowance cheques.

"The central theme of the Igloolik project", says Dr. Hughes, "is the study of human adaptability as displayed by a population living in a harsh environment where they are subjected to stresses that are known seriously to affect non-adapted individuals from other populations."

The project is a brilliant example of inter-disciplinary co-operation. Working together as a team are anthropologists, geographers, ecologists, physiologists, geneticists, nutritionists, epidemiologists, psychologists, demographers, dentists and linguists. They have asked, and obtained answers to, a host of questions about the Eskimos, their lives, their culture, and their environment. For another two years they will continue to ask questions and compile answers.

Ecologists want to know about the physical terrain, the weather, such matters as the changing patterns of the ice, and the influence of these factors upon the Eskimo hunters. The scientists do not sit in comfort in



Three University of Toronto professors who are closely involved with the Canadian Human Adaptability Project, a five-year study of the Eskimos, are seen with some of their research equipment. From the left they are Professor Roy Shephard, Professor Heather Milne and Professor David R. Hughes. Dr. Shephard is in the Department of Physiological Hygiene, School of Hygiene; Miss Milne is in the School's Department of Nutrition; Dr. Hughes is Chairman of the Department of Anthropology, Faculty of Arts and Science.

Igloolik waiting for the hunters to return with reports; rather they go with the Eskimos to see for themselves what happens on a hunt. While the ecologists may be able to determine which of the Eskimos are the best hunters, the physiologists under the direction of U of T's Dr. Roy Shephard, professor of environmental physiology, try to ascertain why one man is better with the harpoon or the shotgun than another. They seek to learn, too, in what way Eskimos differ physically from white men. Are Eskimos really more tolerant to extreme cold than are whites, and, if they are, is this an inherited or an acquired characteristic? One of their techniques is to give Eskimos physical fitness tests, the results of which can be compared with similar tests of office workers in the cities nearly two thousand miles to the south.

Geneticists are endeavouring to compile a physical description of the Eskimos. They list their blood groupings, take finger and palm prints, study the natural colour of their skin and the effect upon it of the sun, and try to verify pedigrees collected by social scientists in order, for example, to find out the extent of illegitimacy and the degree of inbreeding.

One of the subjects of special interest to Dr. Joan F. de Pena, professor of anthropology at the University of Manitoba, is the growth and development of the native people. For example, does an Eskimo child grow at the same annual rate as a child in Toronto? Measurements are being

made of each child every six months as one step to find out.

Professor Heather Milne, nutritionist in the University of Toronto's School of Hygiene, is interested in the Eskimos' eating habits. The Eskimos appear to be in a state of transition, changing from the natural foods, the fish, seal and caribou their ancestors ate, to store-bought foods. It has already been determined that, at Igloolik, the teeth of adults, although worn, are not so decayed as the teeth of children. Is this because the youngsters now consume more candy and sugar than their elders ever did? The nutritionists want to know also how much energy the Eskimos store up from the foods they eat and how much they expend in such activities as hunting.

A direct benefit of the project to the Eskimos of Igloolik is the thorough medical and dental examination each receives, and the treatment they receive when they need it. Dr. Otto Schaefer of the Northern Medical Research Unit in the Department of National Health and Welfare, joined Dr. Hughes, Dr. J. A. Hildes, professor of medicine at the University of Manitoba, and Dr. J. Maynard at Igloolik and Hall Beach for a short reconnaissance visit. The medical doctors held clinics and Dr. Schaefer talked to the people about specific disease and health problems.

The researchers were interested to read the causes of death among Eskimos as recorded by the Royal

(Continued on page 130)

Miss Purity, University of Toronto entry in the 3500-mile Clean Air Car Race, was the 6th of 37 finishers, only 90 minutes behind the first to cross the line. Her prize was \$5,000 as a co-winner in the internal combustion-electric class. In December the U.S. National Air Pollution Control Administration underwrote the cost of Miss Purity's appearance at the International Clean Air Congress in Washington, D.C., where she was the only automobile on display.

Bruce S. Schwartz, who is in the 1972 graduating class at Massachusetts Institute of Technology, and served as an official observer for the Clean Air Car Race, takes the view that the race itself was unimportant beside the magnitude of the issues it raised. *Technology Review*, journal of the M.I.T. Alumni Association, presented his story under the sub-heading, "Wherein a student observer reports how the C.A.C.R. proved the tenacity of the internal combustion engine and the durability of the status quo". Reviewing assistance from "the automotive establishment", Mr. Schwartz commented that the big companies should have got behind the project sooner and should have done more. The following excerpts from his article are reprinted with permission of *Technology Review*.

UNIVERSITY STUDENTS LOOK AT PLANET EARTH (II)

Automobile vs Clean Air

BRUCE S. SCHWARTZ

ON August 21, 1970, 42 low-pollution vehicles – electric, electric-hybrid, one gas turbine, and many conventional vehicles modified to reduce emissions – left M.I.T. on the first leg of the 1970 Clean Air Car Race (C.A.C.R.). Seven days and 3,600 miles later, 35 of the cars had arrived at Pasadena campus of the California Institute of Technology. Two electric vehicles straggled in under their own power two days later, bringing the number of survivors to 37. It was a singular caravan – 150 motor vehicles (including support cars), 350 persons – which had made its way across America, carrying to

all who would listen the message of clean air.

All of the cars were driven – and most had been built – by students from over 20 colleges and two high schools. They were designed to demonstrate the feasibility of building cars that would pollute the atmosphere significantly less than those currently on the road.

This 1970 intercollegiate Clean Air Car Race was in a very real sense a race against time. Not to see who could make it from Boston to Pasadena first, but to see what kind of power plants and exhaust systems would pollute the air least. The Race

was also a challenge thrown at the automobile industry: After all, if students could build low-polluting cars, why couldn't Detroit. Why hadn't Detroit? Though the Race organizers never specifically accused the industry of foot dragging, the accusation was there, implicit in the very fact that anyone felt a need for such a race to exist.

The race against time was and is a race against disaster.

The case against air pollution is by now well established. Mortality statistics, lung cancer and emphysema rates, and the growing physical discomforts reported by urban dwellers only suggest the outlines of the situation – a crisis by even federal standards. In 1966, for example, a temperature inversion began over New York City on Thanksgiving Day; by the time it lifted, 175 persons had died of smog-related causes.

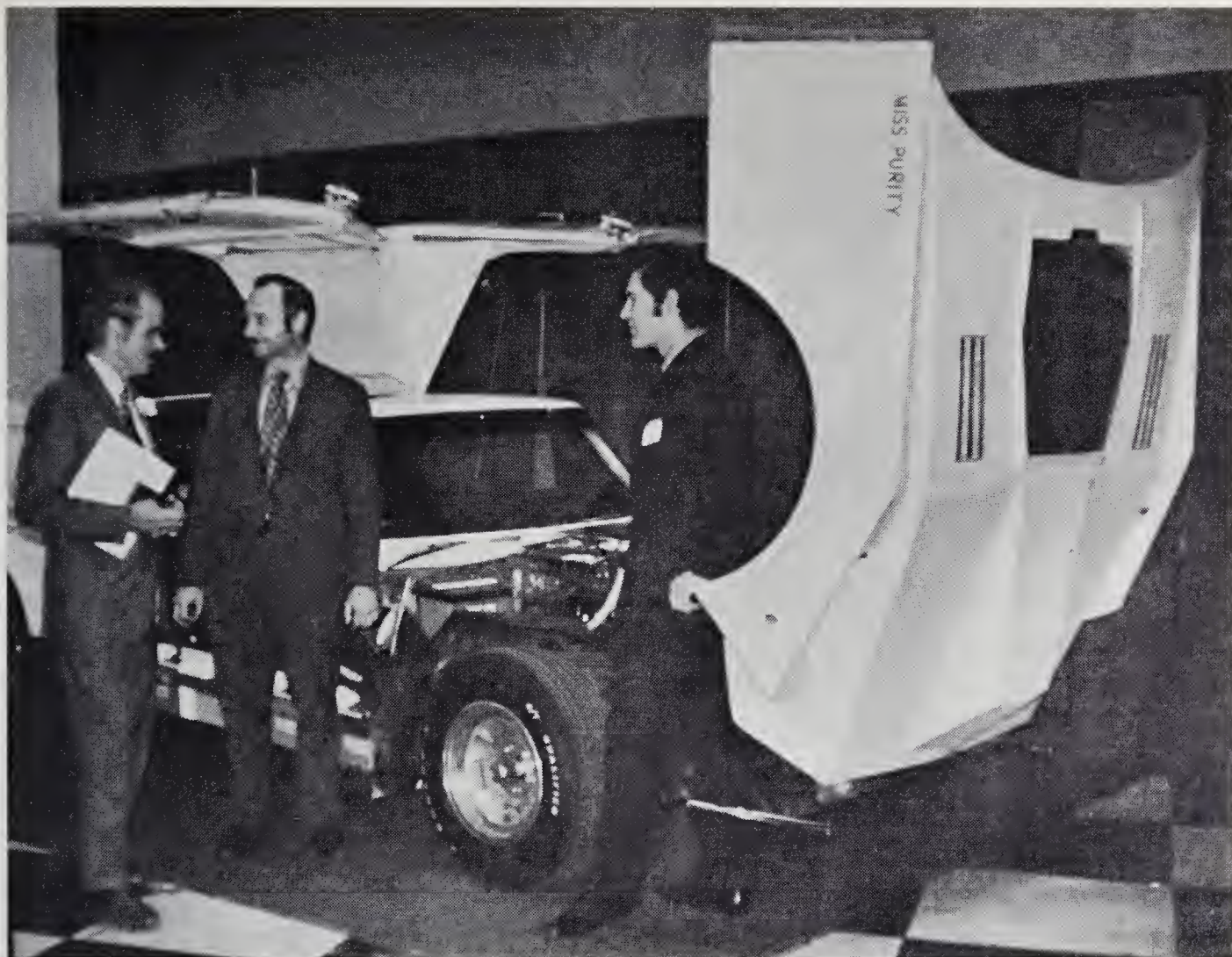
About 60 per cent of the poisons that go into our air come from automobiles. Yet as late as 1965, *Automotive News*, a trade journal, was calling smog "a hoax," a problem only in Los Angeles. In Los Angeles, of course, smog is anything but a hoax. On the day the Clean Air Car Race arrived the radio stations were broadcasting reports of "moderate to heavy smog . . . medium eye irritation." The Angelenos have learned to live, in a manner of speaking, with what is killing them.

The need for low-pollution motor vehicles was in the minds of M.I.T. Professor Richard D. Thornton and

his colleagues last winter when they conceived of the C.A.C.R. as a sequel to the Great Electric Car Race run between M.I.T. and Caltech in the summer of 1968. They envisioned a modest event – perhaps ten cars. It would be open to any kind of power plant so long as its exhaust was clean. It would be run during the summer from M.I.T. to Caltech. They asked Robert G. McGregor, an M.I.T. graduate student in mechanical engineering, to head the organization for the event.

The modest event very rapidly took on the proportions of a logistical nightmare. Though ultimately only 42 vehicles began the race, at one point over 90 preliminary entries had been received by the C.A.C.R. Committee at M.I.T. To help with the organizing, McGregor recruited his wife, his brother, several of his A.T.O. fraternity brothers, friends, and *their* wives and friends. Though primary responsibility was vested in this M.I.T. group, a similar committee at Caltech, headed by Harold Gordon, coordinated planning at the other end of the country.

The C.A.C.R. Committee's four published objectives were to assess vehicle technology, to determine emission characteristics, and to publish technical reports – "data on vehicle technology and pollution emission characteristics, respectively, in a compact document which delineates the present status of automotive technology." Only the fourth goal, "Create public awareness . . . of current pro-



Her innermost secrets open to inspection, Miss Purity was the only automobile to be exhibited at the 2nd International Clean Air Congress in Washington. With her, from left, are Maurice Strong, Canadian secretary general of the United Nations Human Environment Commission; John Middleton, Commissioner of the U.S. National Air Pollution Control Administration; and Douglas Venn, Miss Purity's chief driver and project coordinator.

gress in vehicle propulsion plant development and dispel any public misconception of present engineering capabilities," admitted any hint that pollution might be more than a technical problem. Science may be neutral; technology never, for it is governed by the "practical," by the economic and political power. C.A.-C.R. demonstrated this in the course of nearly three weeks of testing and racing as much as it demonstrated the

effectiveness of exhaust reactors. Before expounding upon this conclusion, however, it is necessary (not to mention informative and entertaining) to return to exposition.

Capitalizing on the National Love Affair

The Committee had a lot to do before the race began on August 24. Rules had to be formulated, a scoring system established, a route planned,

arrangements made for testing – and someone had to plot the logistics of getting everyone across the country. Publicity alone required the full-time efforts of M.I.T. junior Frank T. (Ty) Rabe, working with the assistance of the M.I.T. Office of Public Relations. The Race had, in fact, begun to receive press coverage as early as February, when Governor Francis W. Sargent came to M.I.T. to christen Tech II, a lineal descendant of the car that lost the 1968 Electric Car Race.

Anxious that the Race not become a bandwagon for industry – a development which might see student initiative drowned in a splash of big-money cars and high-powered public relations – the Committee decreed that each entrant had to be affiliated with an accredited college (this rule was finally waived for two high school entries) and had to be driven by registered students. A few cars slipped around this rule. Ethyl Corporation's entry, ostensibly Louisiana State's, was built in Detroit and never went near Louisiana. Brunner Engineering of Bedford, Ind., pulled off a publicity coup by entering the only all-girl team in the race, two University of Evansville co-eds who quickly admitted that they didn't know how Brunner's propane vehicle worked.

Entries, the Committee decided, would be judged in five classes, based upon their propulsion systems – internal combustion engines (I.C.E.), Rankine (steam) engines, turbine (Brayton cycle) engines, electric

motors, and electric-hybrid power plants – the difference between the latter two being that the “pure” electric would require external recharging facilities while the hybrids would carry on-board engines powering generators. (These classes were altered after the start of the race since no steam car survived even the first lap. The I.C.E. class was then split.) The winner in each class would be determined on the basis of several tests for emissions, road performance, noise, and thermal efficiency and by its score in the Race. All of these scores would be tabulated each day of the Race by a computer and the results retrieved by the Committee's telephone remote terminal. At the end, a mathematical formula would determine the class winners.

But in naming an overall winner, the Committee desired more flexibility. How, after all, could one compare an electric car with a gas turbine on a purely mathematical basis? There would be economic factors to deal with. The cleanest car might be one that burned liquid hydrogen, but if hydrogen could not be procured in motor-fuel quantities in the near future, such a car could not be considered a practical alternative to today's systems. Would the automobile manufacturers be able to mass-produce steam cars? To weigh such questions would require human judgment, so the Committee decided to leave the selection of an over-all winner to a panel of five recognized “experts” in the field of automobiles and pollution.

From an engineering standpoint, the Race was the least important aspect of the C.A.C.R. All the relevant data about the cars could have been ascertained by putting them on dynamometers and running them the equivalent of 3,600 miles. The Race was necessary to attract public attention – and hence to achieve the educational purpose – and to attract participants and backers. Exploiting the well-known American fascination with the automobile and with auto racing guaranteed, in theory at least, that the Race would generate enough public interest to be an effective prod to the auto industry.

Technically, however, more important things went on in laboratories in Cambridge, Detroit, and Pasadena than occurred on the road. Michael K. Martin, an M.I.T. junior, was responsible for the emissions tests conducted at these three locations.

The race itself was a rally; each of the seven legs had its own “best time” based on the Committee’s calculations and own driving time each day. The times were based upon strict observance of posted speed limits. The route itself was determined by several constraints: it had to pass south of the Rockies to permit the less powerful electric cars to get through; it had to go to Detroit since only there could enough facilities be obtained to test all the cars. Toronto was made a stop-over to give the race an “international” flavor.

Other cities – Champaign, Oklahoma City, Odessa, and Tucson –

were chosen for their roughly equidistant locations and their facilities to house, feed, and fuel the caravan. The route was finalized in June and Committee members made several trips to arrange things. These arrangements included the building by utility companies of the nation’s first electric highway, a series of recharging stations every 50 to 60 miles. Arrangements were made by the National L-P Gas Association for refuelling the 15 entries using propane in I.C.E.’s.

Thermal efficiency in terms of miles per million BTU’s was measured over a 1,000-mile stretch of the route between Ann Arbor and Oklahoma City. Performance and noise tests were conducted at the Draper Laboratories’ Bedford Flight Facility at Hanscom Field near Lexington Mass., under the direction of William A. Charles (M.I.T. ’71), during the week before the race began.

Scarce Technology, Abundant Hoopla

The week at M.I.T. prior to the Race was in some respects more dramatic than the Race itself, for during it the character of the C.A.C.R. was forged: the issues emerged and were defined, the conflicts (explicit and implicit) were limned, personalities emerged, and everyone began picking winners.

In one respect the field of entries that showed up at M.I.T. during the week of August 16 has to be considered disappointing. Internal com-

bustion engines outnumbered all others better than two-to-one. At the finish only five non-I.C.E. vehicles were among the 37 cars that qualified as completing the race. And the overwhelming majority of these cars represented no exciting technological thrusts whatsoever, incorporating into their stock Detroit frames nothing more sophisticated than propane conversion systems that have existed for 20 years, commercially available catalytic reactors, etc.

The fates of the exotic cars were uniformly bad. Steam cars made no showing at all. Working with almost no money save one of the \$2,000 G.M. grants, Brunn Roysden's M.I.T. team spent the week before the race working round-the-clock trying to put their jury-rigged fabricated steamer together, but they couldn't beat the deadline for the start. W.P.I.'s "Great Teakettle" arrived at M.I.T. under its own steam, all right, but it was never able to exceed 30 m.p.h. and during testing at Hanscom Field it vented so many fumes into the passenger compartment that its assigned observer was forced to vacate his post. August 24 it was driven over the starting line and back to W.P.I. The University of California at San Diego fared little better: they towed their car back to U.C.S.D. on its trailer, revving it up at the impounds each night to show a curious public what might have been.

Of the pure electric vehicles, only two (Cornell University and Stevens Institute of Technology) managed to

complete the race in time to qualify. Their range (60 miles) and long recharging periods (up to 90 minutes) placed them at a hopeless disadvantage as far as keeping up with the Race was concerned. Despite round-the-clock driving, it took them almost 48 hours longer than everyone else to reach Pasadena. Georgia Tech arrived too late. Ironically, they were delayed not by recharging but by their trail vehicle. Georgia Tech's plan was to have two battery packs, using one in their car while the other was being recharged by a generator on the trail truck, which broke down. Three more starters also failed to qualify, victims of a variety of failures.

In the electric-hybrid category, M.I.T.'s Tech II suffered breakdowns even before the start. David A. Saar and William W. Carson, both seniors, hybridized the electric-powered 1968 Corvair which had been to Pasadena in that year's Electric Car Race with an alternator and low-pollution gasoline engine. The alternator burned out and delayed their start for several hours, consumed two days in Toronto being repaired, and failed for the last time in Oklahoma City. The team flew to California in time for the awards banquet; the car was towed back to M.I.T. W.P.I. burned out their solid-state controls but managed to improvise replacements. Toronto's Miss Purity, the flashiest car in the race with a customized fiberglass body, suffered a demolished exhaust line when team captain Douglas Venn drove over a board in Toronto and

threw a piston rod near St. Louis — but nevertheless managed to finish the race. Both, moreover, tested out poorly on emissions; and Toronto's quadrimodal machine ran most of the race on its I.C.E. with an electric assist (for acceleration and deceleration). Finally, M.I.T.'s gas turbine was the standing joke of the Race.

In the midst of the hoopla no one seemed to mind the fact that no one demonstrated any really innovative technology. There is, of course, a simple explanation: it is far easier to modify an already sophisticated package than to start from scratch, and the state of steam and electric car technology is such that this is what most entrants chose to do — and without the kind of money or time required for research to create a product which would fulfill the demands of a transcontinental journey. In this respect the C.A.C.R. failed — was doomed to fail. This is tragic; there *are* some reasonable alternatives to the I.C.E., and they need to be explored. For example the Rankine cycle (steam) engine is not only inherently cleaner than the I.C.E. by virtue of its external combustion; it is mechanically far simpler. (Is this mechanical simplicity a clue as to one reason the automobile industry has been so reluctant to develop the steam car? Replacement parts account for a large fraction of the industry's business.)

The racers stepped into the full glare of publicity on August 22, when the first of many public exhibitions —

this one at Boston's Museum of Science — attracted a moderate crowd who pumped the team members eagerly for information. Here, as at every exhibit along the route, the showstopper was Toronto's Miss Purity. She had a twenty-first-century body, the kind you see only in Sunday supplements, and her crowd-drawing powers made you wonder almost as much about Detroit's designers and their talents as about Detroit's engineers and executives.

The first cars left at 3:30 the following morning. The six electric entries were given a three-hour lead on the other cars. Nevertheless by the time Monday ended they had fallen behind and would continue to do so.

Readers may wonder why I have chosen to dwell so little on the race itself. The answer is that in retrospect the race is unimportant beside the magnitude of the issues it raises. While we were on the road, however, the race was overwhelmingly significant; in fact, it was the only thing of significance in the world, and it became the world to the participants. We were in the cars up to 14 hours a day; in the evenings team members had to stand at the impounds and explain matters to the public. There were meetings and press conferences to attend. Several cities honored us with public fetes, buffets, and barbecues. A lot of liquor was consumed. A lot of sleep was missed. Amazingly, there were no accidents whatsoever, not even a dented fender. There were few incidents. Whitworth Col-

lege was stopped and ticketed for speeding in Arizona. A cameraman was arrested and fined \$50 in Montonee, Ill., for sitting on the tailgate of the crew's station wagon — parked at the time — drinking a beer, an act which is illegal in Illinois.

In Pasadena the finishers were retested and redisplayed and the winners announced; the winning teams departed with their trophies and N.A.P.C.A. with their cars. The overall winners, Wayne State, were surprised by their victory.

In giving the overall prize to Wayne State, the judges passed over a number of non-gasoline automobiles that *had* tested out better. One of the reasons they did so, explained their chairman, David Ragone, Dean of Dartmouth's Thayer School of Engineering, was because of the "practicality" of sticking with a gasoline engine. In this the judges' decision is consistent with the inherent indolence of the American economy and the industry which it represents. The automobile and its internal combustion engine are highly perfected machines in which we have a large financial and emotional investment. Neither business nor the government wants to rock the corporate boat if pollution can be dealt with without such drastic measures as totally banning the I.C.E. in 1975 as has been suggested by the California Senate and Senator Edward Muskie. The question is just how long the solution will be delayed by this kind of conservatism.

Gordon J. F. MacDonald of the

President's Council on Environmental Quality, who was the keynote speaker at the send-off banquet at M.I.T. on Sunday evening, August 23, touched upon the real issues — traffic congestion and the need for mass transit, the social destruction wrought by the automobile and its highways, the waste of metals represented by the nation's scrapyards and of humans by our accident toll, and the economics of pollution: ". . . It is often cheaper to pollute the environment than to protect it. The polluter's indifference gives him a competitive edge over his competition and he is more likely to survive. I believe that some basic restructuring of our system of economic incentives will be necessary if we plan a long tenancy of the earth."

The Race's organizers and spokesmen in their public statements chose to play down the dissatisfaction with the automobile industry which had inspired the Race in the first place, and by failing to do so they lost an opportunity to arouse public opinion to pressure the industry for a low-pollution car. Let us suppose that when the Race Committee had the ear of the public it had said, "If we can do it, Detroit can do it. Demand it from them. Tell them you'll buy foreign cars if they don't give you a clean car by 1975. Your air is killing you!" Just suppose!

Many criticisms can and will be made of the C.A.C.R. But in an otherwise smoggy summer it was a ray of hope. Whether the clouds are breaking up we shall know in the years to come.

Food for the mind, joy for the palate

THE OTHER LEACOCK

is the theme of a Symposium
offered by the University of Toronto,
which will be held at Massey College
on Friday and Saturday, October 30 and 31, 1970.
Papers and discussion will be directed
at Leacock's work and ideas in realms which
have not received so much attention as his humorous writing.

PROGRAM

FRIDAY

6:30 pm

Cocktails in the Upper Library, Massey College: the inauguration of a new cocktail, Scotch base, named for Stephen Leacock.

8:00 pm

Dinner in Hall, Massey College:

Leacockian viands and wines, University of Toronto songs of the period of Leacock's undergraduate years, sung by the Massey College Singers.

Toast: To the memory of Stephen Leacock

Proposed: President Claude Bissell

Response: Professor Morris Bishop of Cornell, scholar and writer

SATURDAY

10:30 am

Upper Library, Massey College: 'The Other Mr. Leacock'
Professor Carl Berger, Department of History

12:00 noon

'Leacock and Education'

Professor Claude Bissell, President of the University

Luncheon in Hall

2:30 pm

'Leacock as a Literary Artist'

Professor Robertson Davies, Department of English

4:00 pm

Tea in the Bibliography and Press Room: each member of the Seminar will receive a numbered copy of a limited edition of a hitherto unpublished MS: 'The McFiggins Fragment: Leacock's Diary of life in a Toronto student boarding-house,' edited with an Introduction and Scholarly Apparatus, published by the Massey College Press.

Farewells and departures at 5:00 pm.

REGISTRATION

Owing to limitation of space, attendance at the Symposium must be limited to sixty persons. Will you please signify by mail if you wish to attend, enclosing \$15 for registration. First come, first registered. Wives or guests of those attending may be accommodated at the Friday night Cocktail Party and Dinner for an extra charge of \$6, which should be included in registration.

Registrations addressed to: The Secretary, Massey College,
4 Devonshire Place, Toronto 5, Canada.



STEPHEN LEACOCK had a particular affection for this family heirloom. As he once wrote: "My great-grandfather, John Leacock, retired from his vineyards in Madeira and came home (to the Isle of Wight) with so much money that nobody worked for three generations. The fourth generation, dead broke, started over." Fees from participants in the Massey College symposium covered, among other delights, liquefied sunshine from the vines tended so devotedly by Great-Grandfather John.

THE OTHER LEACOCK

THE CENTENARY of Stephen Leacock's birth has been celebrated frequently and variously since December 30th 1969. Leacock buffs gathered at dinners, drank toasts, listened to speeches and papers, gave Awards, and held Readings from the Works. Historical plaques were unveiled; a six-cent stamp bearing his portrait was issued in Ottawa; a mountain was named after him in the Yukon, and a cocktail in Toronto. Biographies, critical studies, and anthologies were published.

In this mild uproar usually Stephen Leacock has been regarded as the Orillia funnyman who taught at McGill. But Leacock was a graduate of Toronto before he went on to graduate work at the University of Chicago and became a McGill Professor of Political Science and Economics. And in his best writing he was much more than a professional funnyman. In planning a celebration at his Alma Mater, President Claude Bissell and Professor Robertson Davies, of the Department of English and Master of Massey College, concluded that here the celebration should centre on Leacock as a University Professor and as

an artist. Their planning flowered in "The Other Leacock", a symposium held in Massey College on Friday and Saturday, October 30th and 31st, in an informal atmosphere that Leacock probably would have found expansive.

Attendance at the Symposium had to be limited to sixty; the sixty rallied from as far off as Prince Edward Island and Alberta. As they arrived in the Massey College Common Room before dinner on Friday, they were greeted with Leacocktails, portentous glasses of Scotch mixed with honey and other things. It was a drink to startle even old University Club members. Even Stephen. Dinner began with blinis and caviar, and vodka, and tapered off with a hot savory of mushrooms on toast, with a wine from the Leacock vineyards established by the great-grandfather in Madeira.

After dinner the Massey College Singers under Gordon Wry sang songs from Leacock's college days. The first song, "The Blue and the White", brought UC people to their feet. They continued with "Gaudeamus Igitur" and "Oft in the Silly Night". They closed with an authentic rendering of "The Lost Chord".

The toast to Stephen Leacock was proposed by President Claude Bissell. The response was by Morris Bishop, Professor Emeritus of Romance Languages at Cornell, author of distinguished scholarly works on La Rochefoucauld, Pascal, and Petrarch, of translations of Molière, and of *A Bowl of Bishop*, another landmark in the great tradition of North American humour.

On Saturday morning the Symposium reassembled in the Upper Library of the College to hear "The Social Thought of the Other Mr. Leacock" by Professor Carl Berger of the Department of History. Professor Berger expanded the Leacock material in his *The Sense of Power: Studies in the Ideas of Canadian Imperialism, 1867-1914*, published this year by the University of Toronto Press.

After discussion, President Claude Bissell read "Leacock and Education", a study of Leacock's ideas and feelings about the world of education in which he spent so much of his life. After lunch, Professor Robertson Davies, author of the critical study *Stephen Leacock* and the new anthol-

ogy *A Feast of Stephen*, delivered his "Leacock as a Literary Artist".

Later tea was served in the Bibliography and Press Room of the College, and each member of the Seminar received a numbered copy of a limited edition of a hitherto unpublished MS: "The McFiggin Fragment: Leacock's Diary of life in a Toronto student Boarding-house, Edited with an Introduction and Scholarly Apparatus". This rare bit of fine printing was hand-set, hand-printed, and hand-sewn by Professor Douglas Lochhead, Librarian of Massey College and Professor of English, and his assistant, Mr. Peter Greig. At 5 p.m. the Seminar melted away into the Toronto rain.

Printed below are the texts of Professor Bishop's response to the toast to Stephen Leacock, President Bissell's "Leacock and Education", and Professor Davies' "Leacock as a Literary Artist". Unfortunately the text of Professor Berger's paper cannot appear here since he had promised it to *Canadian Literature* before the *Graduate* asked him for permission to print it.

GORDON ROPER
*Professor of English, Trent University
and Fellow of Massey College*

THE PRESIDENT'S TOAST TO LEACOCK'S MEMORY

SINCE, TOMORROW, I join with two colleagues in paying an extended tribute to Leacock, I shall simply offer a brief prologue to our distinguished visitor, Morris Bishop.

It is fitting that we should celebrate Leacock in this College and in this University. He was an undergraduate at University College (for most of that time what today we would inelastically call an "extension" student), and he retained a lively affection for the city and the College. He aspired to join the staff here, but circumstances led him to McGill, for which he developed a great affection. He has celebrated the two universities in verses that do not attain a classic perfection, but radiate warmth:

Trained at Toronto, nurtured
by McGill
I know not which should
my affection fill.
Backward and forward my
affection goes
One gave me knowledge, one
supplies my clothes.

About the city of Toronto he was more ambivalent. In one context, it

was his "sunshine town" grown large and prosperous; in another, he remarked, "Toronto is a village and always will be". But even about his loves he was unpredictable. Late in life he observed that "the distinction about old McGill is the men who are not there".

I am sure that Leacock would have loved this College, with its emphasis on residential life, its unapologetic élitism, its combination of good living and high thinking, its belief that scholarship need not be stuffy and that even the pursuit of the Ph.D. has its incidental pleasures. And I am sure that of all that is being written today Leacock would relish most the work of the Master of Massey.

We are delighted that Morris Bishop has joined us in these celebrations. My own pleasure is of a very personal kind. When I arrived in Ithaca in the Fall of 1937 to pursue a Ph.D. at Cornell, almost the first member of the staff I met was Professor Bishop, who certified my reading knowledge of French, and thus launched me on my mixed academic career. Morris Bishop was the presiding presence in Cornell's most famous

literary club "The Book and Bowl" (which celebrated both in equal measure); and he was also the Club's financial advisor; for I retain a handwritten letter from him that reads, "Dear Claude, about that little matter of your ten-dollar fee . . ." Later on—toward the end of my years at Cornell—I submitted a research essay for a prize, and was declared the winner over two other contestants. Morris Bishop was one of the judges, and it says something for the objectivity of a humorist that he could think well of an essay entitled "Ethical and Scientific Ideas in George Eliot". I saw Morris Bishop in June of this year at the installation of Cornell's new President. He was the Marshal of the Convocation; and when, as everyone feared, the proceedings were interrupted in accordance with the tired old scenario, Morris Bishop, Renaissance scholar, used the mace for the purpose it was intended, and propelled the intruder from the platform (aided by two plainclothesmen).

Leacock would be pleased that Morris Bishop was replying to this toast. He would warmly approve of Bishop's scholarship—liberal, humane, concentrating on men and principles; he would relish Morris Bishop, the wit and humorist; and he would be pleased—no narrow, introverted nationalist, he—that a distinguished American man of letters had joined our festivities.

I ask you to rise and drink to "the memory of Stephen Leacock".

CLAUDE BISSELL

Stephen

I AM ASKED to reply to your toast on behalf of Stephen Leacock, unfortunately prevented by circumstances from making his own reply. I must do my duty by attempting some assessment of his work. When the scholar is asked to assess the work of an author, he is expected to read, or to re-read (for a scholar never reads, he always re-reads) the author's entire *œuvre*, and then explain his philosophy and doctrine, which the author was unable to do himself. In the case of, for instance, Thomas Aquinas, this is an exacting task. But in the case of Stephen Leacock, what a pleasure! I am happy that you did not ask me to respond to a toast to Thomas Aquinas.

I have then read, or re-read, some twenty volumes of Leacock with constant delight, though with occasional marginal reproof for passages that I would have done differently. This has

MORRIS BISHOP REPLIES TO THE TOAST

Leacock, Laughing Philosopher

been a very instructive experience. I have learned that there were a number of Leackocks, one for every age—the irreverent burlesquer for the young, the sharp prober of pretension for the middle-aged, the genial sentimentalist for the elderly.

If you will permit me to intrude a personal reminiscence—and I don't know how you are going to stop me—it was in 1911 or 1912 that I discovered *Literary Lapses* and *Nonsense Novels* and read them, strangling with joy, and with that heaving of the diaphragm, that harsh glottal explosion, that spasmodic audible expulsion of breath, that constitute laughter, man's unique and precious attribute. And now, nearly sixty years later, I have re-read them with the same delightful effects upon the diaphragm, glottis, and epiglottis.

In 1911, naturally, I attempted no analysis of Leacock's comic method.

This I must now essay, tiresome though it may prove to be.

The basis of Leacock's work is the distortion of reality, or of familiar human behavior against a recognizable background. His fundamental realism was already noteworthy in his *Sunshine Sketches of a Little Town* (1912); it reappears in his famous *Bass Fishing on Lake Simcoe*, in the anguished recollections of *Fetching the Doctor*, in his lovely vignette of *Horse and Buggy*. An acute eye, a sharp memory, provided him with a rich fund of fact on which to erect his structure of exaggeration and fancy.

Realist as Leacock was, why did he not take the obvious step of writing a proper novel, for his own glory and that of Canada? Donald Cameron discusses the question at length in his brilliant study, *Faces of Leacock*, and ends, I think, in bafflement. Let me

add a paragraph to Cameron's discussion. Most literary history is the history of groups; most poets and writers of fiction have belonged in youth to a cluster of ardent young spirits, mad about literature, eagerly trying their hands at creative writing, solemnly discussing and imitating the new works of new men and women, and looking to a future novel—if not an epic poem—as to a glorious crown. To write a novel at forty, one should begin at twenty. But in Leacock's younger days in Sutton, Uxbridge, and Strathroy and at Upper Canada College he apparently found no companions to stimulate a literary purpose; and even at the University his only recorded concern with creative writing was his associate editorship of *The Varsity*. He did not write a novel because he did not know how to; he did not know how because he had not found inspiration, purpose and definition in the common enthusiasms and rivalries of literary-minded groups.

Of course Leacock read with attention the fiction of his time. He did what he could with it; he turned it into parody; and parody is often a consequence of affection. In the early years of the century parody was a relatively respectable mode of literary behavior. The humorous magazines were filled with parodies of Omar Khayyam and the poets in vogue; fictionists, from Fielding to Max Beerbohm, loved to parody each other. Today literary parody has almost disappeared. The reason is, I think, that we can no longer depend on a com-

mon body of literary reference among readers. No recent English poetry has imposed itself on general awareness so far that a parody of it would be recognizable. I doubt if any poetry later than *The Waste Land* of 1922 would be susceptible of parody. And few novelists wield a style sufficiently marked to be parodiable. If a new Leacock should propose to write a new *Nonsense Novels* he would find the task insuperable; the serious novelists write their own Nonsense Novels. Since parody depends on the exaggeration of the original's characteristics, the parodist would find that his parody of *Finnegan's Wake* would be totally incomprehensible; his parody of Henry Miller or of William Burroughs would be merely revolting. And if he should undertake a parody of a popular novelist like Frank Slaughter or Frank Yerby, whose works have a wide sub-literary circulation, none of us would have any idea what he was up to. The only parodist now operating, so far as I know, is Peter de Vries. He runs parodies into his novels without warning or identification. I realize that he is parodying someone, but I don't know who — whom — who. (Now I am parodying Leacock's own pose of ostentatious ignorance. I know perfectly well that I should say "I don't know whom" — Or who?)

Parody is an aspect of broad, or low, comedy. And broad, low comedy was Leacock's delight. He made the most of his professorial status. The clown's pratfall can be funny; the pro-

fessorial pratfall is ten times as funny. Leacock perfected the professorial pratfall. He accepted the clown's devices, the resounding blow with a stuffed club, the use — and over-use of attested comic properties, guaranteed to raise a laugh. Thus he drags in, to satiety, whisky and cigars as symbols of comedy, as signals to the reader. But if his comedy was low and broad, are we therefore to condemn it? Is High intrinsically better than Low and Broad? Is the High Church better than the Low Church and the Broad Church? That is the kind of philosophical question Leacock liked to put, and then to mangle.

The favorite, the most constant of his devices was the shift of mood, the descent from pathos to bathos, the sudden irruption of folly into truth, or of truth into folly. Our Master Robertson Davies gives a superb example in *Our Living Tradition*. "When Leacock was a master at U.C.C., another junior master amused and annoyed the Common Room by his repeated complaints about his salary. At last he requested Leacock to draft a letter for him to the Board of Governors. When completed, it ran thus: 'Gentlemen: Unless you can see your way clear to increasing my stipend immediately, I shall reluctantly be forced to' — and here the page was turned — 'continue working for the same figure.'"

That is the sudden irruption of truth into folly, or formality, the overthrow of the expected cliché. Let me give, for my selfish pleasure, some more examples. This from his tribute

to Andrew Macphail: "The Canadian countryside . . . bred, unconsciously, a love of the open air, of early hours, of the remembered stillness of the woods and the unceasing breaking of the sea. This, to people lucky enough to get out of it, . . . was coloured with the mellow hues of retrospect." Or this, from *How to Lose Money*: "I once knew Sir Humphrey Dumphrey, the big electrical man. . . . Sir Humphrey said to me: 'Look at me. I can't do fractions.' I looked at him. He couldn't do them." Or again, from *Winsome Winnie*: "Her great eyes sought the young man's face and found it."

But if I once start quoting I shall never have done. Let me give a final example, which has a particular interest for me. On April 26, 1916, Leacock came to Ithaca and gave his talk on *Education as I Have Found It* to the Book and Bowl Club, of which President Bissell and I have the honour to be fellow-members. I was, to my sorrow, far away, attempting to earn a living. When I gave up that effort and returned to the cloistered life, I heard some of Leacock's phrases quoted with gusto. He said: "I see the Temple of Learning standing proudly on a hill-top. It is defended by massive bronze doors, tight shut and barred. And I see a great throng of ardent students, youths and maidens, crowding against those doors, hammering upon them and crying with one voice: 'Let me out!'"

That seems to me a perfect lecturer's gag. It directs the listener to an

obvious expectation and then destroys it in the last word, the last syllable. But the listener has created the expected statement out of his own preconceptions; he has had no right to presume that the throng was outside rather than inside the doors. The joke is on the listener who has yielded to the lecturer's misdirection, which is at the same time his own.

Now this same development occurs in Leacock's *Apology of a Professor*, published in 1916, in this form: "The professor holds the golden key which will unlock the door of the temple of learning — unlock it, that is, not to let the student in, but to let him get out." This is well enough, but comparatively flat. It is evident that Leacock, for all his apparent spontaneity, revised and rephrased his comedy in the interest of effectiveness — of style, in short.

So much for his comic method. If I then attempt to look beneath method for substance, I am struck by certain constants. First of all, the gayety and high spirits of his work, at least in his youth and maturity. This quality emerges from his nature; he was habitually amused and amusing. Gayety was perhaps easier and more popular in those times than in these; if a person is markedly gay we are inclined to suspect that he is drunk, or worse. Leacock was formed in an era of hope and confidence, when eternal verities seemed actually eternal, such as Anglo-Saxon destiny, the British Empire, the beneficence of science, material progress, the approaching

triumph of universal good-will. "The true humorist must be an optimist", he wrote. And the public presentation of optimism suited his nature. He said again: "I have no sympathy with the idea that a humorist ought to be a lugubrious person. I always try to appear cheerful at my lectures and even to laugh at my own jokes."

His optimism rested on a basis of sound, if somewhat simplistic, common sense. In his more serious work he is constantly brushing aside problems and difficulties by appealing to the hearty good sense of the average man. This is a kind of anti-intellectualism; it sometimes works, indeed it often works better than the airy constructions of the theorizers. But often it does not work, for the problems are simply too difficult to be grasped, let alone be solved, by common sense. Even the subject of his professional concern, economics, is no longer susceptible to common sense, as Leacock refused to recognize.

Another persistent quality of our hero is decency. He accepted without question the tradition of honor, fair play, rectitude and reticence in which he had been formed. He was, after all, a Victorian bourgeois, and in his life and writings he followed implicitly and explicitly the Victorian code. Well, there are a lot of worse codes, including the rejection of all codes. He could look with a kindly eye on typical bourgeois failings, such as drinking. But he was horrified by sexual looseness and by the invasion of literature by free-spoken sexuality.

He spoke of "that terrible obsession with sex which is creeping like a green slime all over our literature." And that was in 1935!

On the whole, he was satisfied with his world, which had treated him well. His pose, if it was a pose, was that of the bluff, healthy, law-abiding citizen, suspicious of hieratic intellectualism, trusting to the instinctive wisdom and virtue of the common man. At the same time he adopted readily, too readily, the prejudices and failings of the common man. One notes his persistent anti-feminism, which is at best over-facetious and at worst deplorable. His judgment of women is almost medieval. "Women need not more freedom but less", he wrote outrightly. "Social policy should proceed from the fundamental truth that women are and must be dependent." (Notice the ready identification of what is with what must be.) He could foresee no place for women in the conduct of the world's affairs. He wrote, again: "The women's vote will not be used to elect women to office. Women do not think enough of one another to do that. . . . As for their money, no woman would entrust that to another woman's keeping. They are far too wise for that." Leacock conjured up a terrifying ogre, the Awful Woman with the Spectacles, and set her to rule in nightmare visions of the future. As I read, I seem to hear again the ponderous scorn of all the comfortable bourgeois of the world, whom Dickens called the snug. I seem to hear again my own Canadian grand-

father. And I am tempted to read between the lines of the timid revelations of Leacock's niece (in *Last Leaves*) and I extend my sympathies to the incomparable Mrs. Leacock in her management of one who was certainly a household despot.

As time passed, Leacock's blustering gayety began to fade. It became something he put on in his lectures and in his early-morning writing hours, because his public demanded it of him and he had the comedian's sense of obligation toward his public. But he was invaded by increasing despondence. He wrote: "If a man has a genuine sense of humour, he is apt to take a somewhat melancholy, at least a disillusioned view of life. . . . Humour comes best to those who are down and out, and who have at least discovered their limitations and their failures. Humour is essentially a comforter, reconciling us to things as they are in contrast to things as they might be."

Does this conflict with his statement that a true humorist must be an optimist? Not entirely. It is optimistic to recognize that humour can comfort us and reconcile us to adversity.

His confession of a hidden melancholy was written in 1924. Leacock was 55; his natural exuberance was dwindling. The Great War — what is still to us elders the Great War — had been four years of anguish, leaving an ineradicable deposit of pain and grief, with a temptation to question the unquestioned verities. Leacock's wife was not well; in the following year

she died of cancer. It was not so easy for him to put on the comic mask, to play forever resolutely the jester. More and more he turned to the utterance of opinions on the state of the world, always amusingly, of course, but with an urgent purpose to express his convictions, and with a new sharpness of criticism.

He returned again and again to the judgment of higher education, his profession, his life-long occupation. No doubt he felt the need to sit in judgment on himself, as men must do at their latter end, pondering whether they have done well or ill in their active years. But few old teachers can have looked so dourly on their profession as did Leacock. In his *Too Much College* (1939) he eliminates most of the curriculum of the College of Liberal Arts. History remains standing, thanks to the support of the cinema; indeed, Leacock seems to regard history as a gigantic film projected for our pleasure. The natural and physical sciences, of which he knew very little, obtain an at least provisional sufferance. English Literature is given a grudging license, if the hours devoted to it be halved and if it be stripped of its critical burdens, so that only the joy of reading remains. But philosophy gets no shrift at all. Leacock calls it "bankrupt since Plato but garrulous as an aged patient in a workhouse ward." The classics are of course to go; indeed, Leacock's hostility to the classics, in which he had done brilliant work at the University, seems almost pathological, a

kind of self-castigation. As for modern foreign languages, which Leacock had himself taught in his younger days, he shows a savage contempt for the grammatical method then imposed, which fails to inculcate fluent conversational ability. Mathematics he would cut in half — but he seems to be speaking of the school curriculum, not of the university course of study. As for economics, he asks if it has run to seed, and seems to conclude that it has. So economics is done for — a bold conclusion. Sociology, he says, has not sufficient body to be a subject of curricular study. (Well, it has put on a lot of weight in the last thirty years.) As for psychology, it is the Black Art of the colleges. And education is unteachable, and business courses are a waste of time, and journalism as a college study is an absurdity. He does not leave very much for the teachers and the taught; indeed, he devotes most of his book to denunciation, and never gets round to a positive statement of what a college should be and do. However, we shall hear tomorrow from President Bissell on "Leacock and Education," and I would not, even if I dared, encroach upon his territory.

The theme of our Symposium is The Other Leacock, the scholar, the serious commentator on life and learning. But in our eagerness to endue him with our own purposes and concerns let us not diminish the first, the famous Leacock, the comic genius. For comic geniuses are all too rare, all too precious. Indeed, who are the

literary comics of today? They are old or aging; they are survivors. There is S. J. Perelman, who at 66 has left America to live in more congenial London. Peter de Vries is 60; Richard Armour 64; Phyllis McGinley 65; Ogden Nash 68; Frank Sullivan 78; P. G. Wodehouse 89. And in England there are such hardy ancients as J. B. Morton, or "Beachcomber," 77. D. B. Wyndham-Lewis, I fear, is dead; he is not in Who's Who. Of course there are brilliantly witty novelists, such as Anthony Burgess and Kingsley Amis, and most noteworthily our own Robertson Davies. And there are amusing newspaper columnists, like Art Buchwald, and in England Michael Frayne (who is being metamorphosed into a novelist). And there are the TV comics, as ephemeral as their world of shadows. And there are a few youngsters, such as Donald Barthelme, who may develop in time into proper humorists. But mostly our laugh-makers deal in black humour or sick humour or simply dirty humour, and I don't find them funny at all. If there are any young emergent literary comedians with true comic vision and mastery to produce more than one or two facetious books, I don't know them. As long ago as 1935 Leacock found current humour "over-rapid, snarling, and ill-tempered." It seems to me today much more over-rapid, snarling, and ill-tempered. And humour has lost its old vehicle, or outlet, the humorous magazine. The only surviving magazine is *Punch* — and even *Punch* has gone serious. Our world is

starving for humour, Mr. Leacock. . . . May I call you Stephen? . . . Thank you, Stephen.

I need not remind this learned gathering of Democritus and Heraclitus, but I will. The Greeks called Democritus "the laughing philosopher" — though I don't find much of a laugh in his theory of the formation of the universe by atoms in motion — and Heraclitus was termed "the weeping philosopher." Democritus and Heraclitus, contemporaries, gazed on the spectacle of the world's folly; Democritus was amused, and laughed; Heraclitus was saddened, and wept. Artists and sculptors ever since have depicted them side by side or face to face, Democritus with his mouth up-curving in a grin and his eyes evidently a-twinkle, Heraclitus with down-curved mouth and furrowed brow. Well, Democritus is my boy. He believed — if we may trust the Encyclopedia Britannica — that true pleasure consists in good humour, in the just disposition and constant tranquillity of the soul. And so did you, Stephen, our own laughing philosopher.

Our times seem to have gone over to Heraclitus. True, the world is very evil, the times are waxing late. True, change and decay in all around I see; and in all around I see indications of man's criminal and suicidal folly. But there is still laughter, and there is still room for a laughing philosopher.

Stephen, our sad world needs you. . . . Answer our toast with your celestial smile! . . . And give my regards to Democritus!

CLAUDE BISSELL

LEACOCK AND EDUCATION

IN HIS COMMENTS on education, numerous, often extended, always vigorous and assured, Leacock drew upon a wide and deep experience. The preface to the book that he devoted primarily to education, *Too Much College or Education Eating Up Life*, 1940, began in this way:

"This book is based on an experience of nearly twenty years of school and college training, ten years of school teaching, thirty-six years of college lecturing, and three years of retirement to think it over."

As he put it elsewhere, "I have spent all my life, over 60 years, in school and classrooms; I began at four years old, and only stopped when they made me".¹ Leacock always spoke rather harshly of his days as a school-

master, first at Uxbridge and then at Upper Canada College. But he loved being a professor, and fought savagely against his mandatory retirement from McGill at the age of 65. He never forgave the new Principal, A. E. Morgan, who he thought was responsible for the decision about retirement (surely he, Stephen Leacock, was no ordinary professor); and he thought no less unkindly of the Board of Governors that sustained the Principal. David Legate recalls some of Leacock's sulphurous comments on the occasion:

"I have plenty to say about Governors putting me out of the University, but I have all eternity to say it in. I shall shout it *down* to them."²

Leacock always thought of himself

as an academic, and as a scholarly writer. His most successful book financially was his first, his textbook *The Elements of Political Science*, 1906, which was widely adopted by universities in the United States and Canada and went through many editions. He looked upon his history of Montreal, *Montreal, Seaport and City*, published two years before his death at the age of 73, as his best book. And, indeed, it is a delightful book, in which an easy and ample acquaintance with the history of the city and of Canada is animated by an intense affection for the subject, a tender, brooding sense of the past, and a humour that is carefully controlled, that gives relief but never obtrudes. His early biographical and political study, *Baldwin, LaFontaine, Hincks: Responsible Government* (1907) is an eloquent and judicious account of the work of the reformers, free of the dogmatic toryism that marred his later excursions into economic and political comment. He is a historian, rather than an economist or political scientist; and he is a popularizer and generalist, interested in making connections between what is already known, rather than exploring the unknown or sustaining a first thesis.

A good deal of Leacock's writing on education is based upon his own ex-

perience as teacher and professor; like his historical writing, it is a fusion of fact, affection, indignation, and humour. His humour in this personal, autobiographical writing was like the humour of Mark Twain, which, as Leacock himself described it in his study of *Mark Twain*, lay "in his point of view, his angle of vision, and the truth with which he conveyed it. It often enabled people quite suddenly to see things as they are rather than as they suppose them to be — a process which creates the peculiar sense of personal triumph which we call humour".³

The essay "The Lot of the Schoolmaster" and the essay "The Apology of a Professor" are the professions seen as they are without false sentiment and windy rhetoric. The result is a statement so true that it startles. The fact about schoolmastering is that the job demands such unusual powers of mind and character that it usually attracts those who fall absurdly short of the ideal.

"Now in my opinion (which is a very valuable one) the whole status of the schoolmaster on this continent is wrong. His position is unsatisfactory. His salary is too low and should be raised. It is also too high and ought to be lowered. His place in the community should be dignified and elevated. He also ought to be given three months' notice and dismissed. The work that the schoolmaster is doing is inestimable in its consequences. He is laying the foundation of the careers of the men who are to lead the next generation. He is also knocking all the best stuff out of a great number of them."⁴

The fact about university teaching is

1. "Recovering after Graduation or Looking Back on College" in *Here are my Lectures and Stories*, (New York, 1937) 33

2. *Legate, David M.*, Stephen Leacock, a Biography (Toronto, 1970) 200

3. *Mark Twain* (New York, 1953) 3

4. "The Lot of the Schoolmaster" in *Essays and Literary Studies* (Toronto, 1926) 166-67

that it no longer takes place in an atmosphere where scholar and disciple meet in a search for truth. The professor's position depends on the authority he has as the one who sets and marks examinations and thereby controls the passage to the world of business and the professions. It is an authority that does not earn respect; the term "professor" slips easily into comic designations of guitar players and barbers; it is applied "downwards and sideways with indiscriminating generality".⁵

Having described the two professions with unsparing realism, Leacock moves on to speculation, to the area of "the half truth". It is, he says, "a kind of mellow moonlight in which I love to dwell. One sees better in it".⁶ He envisages a school where the teachers are drawn from the leaders of politics, literature, and the arts, and where the huge salaries of the staff are paid for by high fees from willing parents. Fantasy; yet not so far away from what has been seriously advocated as an antidote to bigness, equipment fixation, and intellectual mediocrity. He envisages a professoriate grown conscious of its economic power. Then, he says, the professor "would have urged his government to put so heavy a tax on the import of foreign professors as to keep the whole market for himself. He would have organized himself into an amalgamated brotherhood so instructors of Latin, United Greek Workers of America, and so forth, organized strikes, picketed the houses of the

college trustees, and made himself a respected place as a member of industrial society."⁷ Now the fantasy is even close to reality. Here is a world that we recognize, where academics inveigh against competition from non-Canadian scholars, and contemplate the adoption of trade union tactics in their fight for higher salaries.

The most sustained piece of comic fantasy on an academic theme occurs in *Arcadian Adventures with the Idle Rich*. But today the fantasy again has a smell of reality. It is doubtful if Leacock was working from actual models. Dr. Boomer, the President of Plutoria University, who subdues potential benefactors with snippets of classical erudition, may have owed something to Sir William Peterson, classicist and principal of McGill, 1895-1921, who presided over the University during the great era of benefactions. But Boomer is largely Leacock's imaginative anticipation of the kind of president that the new complex, business and vocation-oriented university would demand. His picture of the academic life is another piece of cunning prophecy. This passage might be subtitled, "The Flight from Teaching":

"Tomlinson looked about him humbly as he stood in the main hall. The atmosphere of the place awed him. There were bulletins and time-tables and notices stuck on the walls that gave evidence of the activity of the place. 'Professor Slithers will be unable to meet his classes today,' ran one of them, and another, 'Professor Withers will not meet his classes this week,' and another, 'Owing

to illness, Professor Shottat will not lecture this month,' while still another announced, 'Owing to the indisposition of Professor Podge, all botanical classes are suspended, but Professor Podge hopes to be able to join in the Botanical Picnic Excursion to Loon Lake on Saturday afternoon.' You could judge of the grinding routine of the work from the nature of these notices. Anyone familiar with the work of colleges would not heed it, but it shocked Tomlinson to think how often the professors of the college were stricken down by overwork."⁸

The most extraordinary piece of fantasy — prophecy in *The Arcadian Adventures* — is the description of the "multiversity". The McGill of 1914, like the University of Toronto of the same year, must have shown only a few faint sprouts of new growth but, in his mind's eye, Leacock envisaged the full lushness of the fifties and sixties:

"The university, as everyone knows, stands with its great gates on Plutonia Avenue, and with its largest buildings, those of the faculties of industrial and mechanical science, fronting full upon the street.

"These buildings are exceptionally fine, standing fifteen stories high and comparing favourably with the best departmental stores or factories in the City. Indeed, after nightfall, when they are all lighted up for the evening technical classes and when their testing machinery is in full swing and there are students going in and out in overall suits, people have often mistaken the university, or this newer part of it, for a factory. A foreign visitor once said that the students looked like

plumbers, and President Boomer was so proud of it that he put the phrase into his next Commencement address; and from there the newspapers got it and the Associated Press took it up and sent it all over the United States with the heading, 'Have Appearance of Plumbers; Plutonia University Congratulated on Character of Students,' and it was a proud day indeed for the heads of the Industrial Science faculty.

"But the older part of the university stands so quietly and modestly at the top end of the elm avenue, so hidden by the leaves of it, that no one could mistake it for a factory. This, indeed, was once the whole university, and had stood there since colonial days under the name Concordia College. It had been filled with generations of presidents and professors of the older type with long white beards and rusty black clothes, and salaries of fifteen hundred dollars.

"But the change both of name and of character from Concordia College to Plutonia University was the work of President Boomer. He had changed it from an old-fashioned college of the by-gone type to a university in the true modern sense. At Plutonia they now taught everything. Concordia College, for example, had no teaching of religion except lectures on the Bible. Now they had lectures also on Confucianism, Mohammedanism, Buddhism, with an optional course on atheism for students in the final year.

"And, of course, they had long since admitted women, and there were now beautiful creatures with Cléo de Mérode hair studying astronomy at oaken desks and looking up at the teacher with eyes like comets. The university taught everything and did everything. It had whirling machines on the top of it that measured the speed of the wind, and deep in its basements it measured earthquakes with a seismograph; it held classes on forestry and dentistry and palmistry; it sent life classes into the slums, and death classes to the city morgue. It offered such a vast variety of themes, topics, and subjects to

5. "The Apology of a Professor" in *Essays and Literary Studies*, 15

6. "The Lot of the Schoolmaster", 189

7. "The Apology of a Professor", 32

8. *Arcadian Adventures with the Idle Rich* (Toronto, 1959—New Canadian Library), 42

the students, that there was nothing that a student was compelled to learn, while from its own presses in its own press-building it sent out a shower of bulletins and monographs like driven snow from a rotary plough."⁹

Leacock, of course, could not write of any subject without humorous exaggeration, without a tendency to deflate even his most solemn observations by a sudden shift to the absurd. But he did have serious ideas about education, and in a number of essays seriousness kept repeatedly breaking through. One can say in general terms about any humorous or satirical critic that he operates from two possible bases — one is the basis of the *status quo*, which is a summation of what he believes to be accepted social practice; the other is the basis of his individual convictions, which may be far removed from any known social practice. The first basis is that of the neo-classical, conservative satirist, and the second is the basis of the romantic, radical satirist. The two positions often merge in Leacock, and it is difficult to see him working at any one time from a fixed position. Like Thomas Chandler Haliburton, whom he resembles in many respects, he is a creature of two worlds — the British and the North American — neither of which he occupies comfortably. Of the two, the British is the stronger: it provides some of the basis for his concept of the *status quo* in education, and some of the basis, too, for his radical protest against North American materialism.

Leacock's *status quo* in higher education was largely what he had known as an undergraduate at the University of Toronto. There he studied the Classics and Modern Languages, with some smattering of Mathematics. He could be critical of the mechanized, rote-like techniques of instruction he had experienced, the grotesque unreality of the teaching in Modern Languages, and the dreariness of recitations and examinations. He held resolutely to his belief that a knowledge of Latin was the basis of good writing and, therefore, ultimately the fundamental discipline in any educational process. Latin, he said, "is the ballast in the hold of a ship down in the dark and unseen which governs every graceful dip and dive of the flag at the masthead and guarantees against disaster".¹⁰ In the disappearance or slighting of these healthy subjects, the university had accepted some neurotic substitutes — subjects vague in outline, undisciplined in articulation, offering wisdom and delivering platitudes.

In *Too Much College* he caustically analyzes four of them — Economics, Psychology, Sociology and Education. Economics disguises simple facts and assumptions in complicated and involuted language. He imagines the Economists as saying:

If we can't understand it, let's at least see that outsiders don't. Let us dress Economics up in esoteric language and give it a jargon of its own, and break away from plain terms like "labour" and "profit" and "money" and "poverty". Let's talk of categories and increments

and margins and series. Let's call our appetite for breakfast our consumers' marginal demand. That will fool them. And if I buy a cigar, but won't buy two, call that my submarginal saturation point for nicotine.¹¹

He thus describes a typical doctor's dissertation in Economics:

"Take enough of that mystification and muddle, combine it with the continental area of the United States, buttress it up on the side with the history of dead opinions, and dress it, as the chefs say, with sliced history and green geography, and out of it you can make a doctor's degree in Economics. I have one myself."¹²

Psychology, he treats even more severely. He complains that Psychology is taking over the whole curriculum:

". . . if a benefactor leaves money for a scholarship in liberal arts", psychology says, "Let me in on that. I'm an art. I'm the biggest dream you ever saw. I'm all thought." If it's for science, psychology says, "Take me in on this. I'm science straight out; look at this testing machine. Stick your brain under it," and if it's a medical gift: "Count me in. Therapeutics is my second name." If it's for theology, psychology slips on a white surplice, and points to its courses on the psychology of religion.

Audacity wins. The other subjects stood meekly by and watched psychology take over their fields. To physiology it

said, "You take the knife and do the work, and I'll make the talk." To economics, "Give me anything your students don't understand about value and demand and I'll fix it so that they do not need to understand it." And to the college at large, "Hand me over the students and I'll test their brains. That's all you need" . . . and it hinted behind its hand, "I can test the professors too, if you like", and in a lower voice, "What about the President?"¹³

In his unfinished autobiography, *The Boy I Left Behind Me*, he returned to the attack, concentrating now on sociology and education. Earlier he had referred to sociology as "a sort of windy first cousin to religion with a letter of recommendation from Herbert Spencer".¹⁴ In his autobiography, he was a little more charitable:

"The trouble with so many of our new curriculum subjects is that they confuse what is agreeable reading for old men for what is necessary reading for young ones. As I see it, the whole of Sociology lies in this field. A wonderful subject of reflection for riper years, but hopelessly artificial as a class study for youth."¹⁵

Education, — and he had in mind the teacher training he had received — was "about ten percent solid value and ninety percent mixed humbug and wind".

The triumph of these new subjects inflates the curriculum and, therefore, greatly extends the time devoted to education. To the slow, convoy-like progression from grade to grade in primary and secondary school is added the pretentious smattering of offerings that makes up the university curriculum.

9. *Arcadian Adventures with the Idle Rich* (Toronto, 1959—*New Canadian Library*), 38–40

10. "What Good is Latin" in *Too Much College* (New York, 1946), 50

11. "Has Economics Gone to Seed" in *Too Much College*, 118

12. *Ibid.*, 120

13. "Psychology the Black Art" in *Too Much College*, 128–9

14. "Teaching the Unteachable" in *Too Much College*, 142

15. *The Boy I Left Behind Me*, (N.Y., 1946), 162

Leacock's *status quo* at university would correspond to the concept of the traditionalists. It would consist of a few hard subjects, taught formally, and intensively. His university would be a no-nonsense institution. (A minor theme that Leacock exploited for comic purposes was the university as social playground — a staple theme of the humorous magazine of the 'twenties.) Leacock would admit the necessity of adding to the basic subjects training in the essential professions. The main thing was to exercise the mind or to prepare for a specific profession. In one of his last essays, he wrote:

"College training is a special thing: It is, or should be, only for specialized purposes, for distinct professions, for research or further scholarship, or for teaching. The kind of general slush given as general courses for students at college, starting with no purpose and heading nowhere, is about as nourishing as bran mash. You might as well put a poultice on your feet."¹⁶

The *status quo* basis of criticism was not as central, however, as the radical, romantic basis. According to this basis, the university was an institution dedicated to the stimulation of the mind and the expansion of the spirit. Education, he wrote, "should rest upon a power and willingness to think: an interest for its own sake, in that general enquiry into the form and meaning of life. . . ." ¹⁷ Such a concept of education resists any attempt at rigid formalization. Examinations are an impertinence, an interruption of the process of mental

enlargement. Education so conceived rejects specialization, which is an attempt to cut the broad field of human wisdom "into a multitude of little professorial rabbit warrens".¹⁸ Specialization is the tool of the professions. If the university subjects itself to the needs of the professions, it will not have any life of its own; it will become servile and dependent.

This is what happens to Plutoria University in the *Arcadian Adventures with the Idle Rich*. This is Leacock's most radical book. The book, as I have argued elsewhere, is, to a large extent, a fictionized version of Veblen's *The Theory of the Leisure Class*; it might have been called *The Practice of the Leisure Class*. The university in Plutoria is concerned with supplying the retinue of the idle rich. The professional graduates are flunkies with appropriate costumes and lettered designations: doctors who develop a reputation by advocating what patients most desire, to be kept quiet in some distant and expensive resort; university presidents who have practised the game of separating the rich from their money by flattery and occult knowledge; university professors who are content to work in genteel poverty, provided they are respected and are free to neglect their classes; and clergymen who are experts in graceful ritual, ballet dancers with a dog collar or pompous, self-important expositors of an antique and discredited theology.

Arcadian Adventures could have been a harsh satire — a satire that

would have made Mark Twain's *Connecticut Yankee* look like schoolboy vituperation, had not the implicit harshness been softened by relaxed irony. But Leacock did resent the university's subservience to business, and the inflated value placed on business success. He thus contrasts the fate of the teacher and the business man:

"None of them retire full of wealth and honour; but when they die, as most of them do, in harness, the school bell jangles out a harsh *requiem* over the departed teacher and the trustees fill his place at a five-minutes' meeting. Meanwhile the public voice and the public press is filled with the laudation of the captain of industry, of the kings of finance, of boy wizards who steal a fortune before they are twenty-five and of grand old men who carry it away grinning with them after death — to wherever grand old men go. These and such are shining marks from which the public approbation glints as from a heliograph from hill to hill. The poor teacher in his whole life earns no greater publicity than his obituary notice at twenty-five cents for one insertion. And one is enough."¹⁹

The business ethos creeps into every area of life and exerts a corrupting influence:

"Organization and business methods are obtruded everywhere. Public enthusiasm is replaced by the manufactured hysteria of the convention. The old-time college president, such as the one at Harvard who lifted up his voice in prayer in the

twilight of a summer evening over the 'rebels' that were to move on Bunker Hill that night, is replaced by the Modern Business President, alert and brutal in his methods, and himself living only on suffering after the age of 40 years. A good clergyman with us must be a hustler. The only missionary we care for is an advertiser, and even the undertaker must send us a Christmas calendar if he desires to retain our custom. Everything with us is 'run' on business lines from a primary election to a prayer meeting. Thus business and the business code, and business principles become everything. Smartness is the quality most desired, pecuniary success the goal to be achieved. Hence all less tangible and frugal forms of human merit and less tangible aspirations of the human mind are rudely shouldered aside by business ability and commercial success. There follows the apotheosis of the business man. He is elevated to the post of national hero. His most stupid utterances are taken down by the American Reporter, through the prism of whose intellect they are refracted with a double brilliance and inscribed at large in the pages of the one-cent press. The man who organizes a soap-and-glue company is called a nation builder; a person who can borrow enough money to launch a Distillers' Association is named an empire maker, and a man who remains in business until he is seventy-five without getting in a penitentiary is designated a Grand Old Man."²⁰

Set against business principles of organization, Leacock preferred leisurely and inefficient Oxford to his no-nonsense, specialized university. He had a deep attachment to Oxford as a symbol of British success in education, achieved not by any formal and rigorous organization, but by a relaxed and deep commitment to the things of the mind. The chapter on

16. "The School is the Lever" in *Last Leaves* (N.Y., 1945), 104

17. "The Apology of a Professor", 19

18. "The Devil and the Deep Sea" in *Essays and Literary Studies*, 44-5

19. "The Lot of the Schoolmaster", 168

20. "Literature and Education in America" in *Essays and Literary Studies*, 92-93

Oxford in *My Discovery of England* has a lyrical tone; the humour is benign, a form of subtle praise. The tutorial system and residential life are the keys to a good education:

"Men who have been systematically smoked at for four years turn into ripe scholars, and if anybody doubts this, let him go to Oxford and see the thing in actual operation. A well smoked man speaks and writes English with a grace that can be acquired in no other way. . . . If I were founding a university — and I say it with all the seriousness of which I am capable — I would found first a smoking room; then when I had a little more money I would found a dormitory; then after that, or more probably with it, a reading room and a library; after that, if I still had money over that I couldn't use, I would hire a professor and get some textbooks."²¹

Oxford was the ideal, but Leacock was also willing to settle for the universities he knew, for Toronto and, in particular, for McGill. The chapter on McGill in his history of Montreal is written from pride and affection. He is at his most eloquent when he talks about the great professors:

"Men, not mortar, make a college. Trustees and governors at times get a glimpse of this in their sleep, then wake up and buy more mortar . . . and not only the great outstanding men — the Dawsons and the Oslers — but all the men, all who are given the peculiar and proper tenure of the university chair, as abiding as marriage, no hire and fire, no time clock, room for individuality to shape and grow, for scholarship to walk its own queer path, as odd as Isaac Newton, as freakish as Edward Gibbon."²²

Leacock was really not quite so dis-

turbed as he appeared to be about the triumph of the "soft" subjects, for after all he had spent thirty-six years himself expounding a "soft" subject, and some of his critics would have added "in the softest possible ways". He loved the classroom, he loved the drama, the interplay of mind, the assurance that the teacher was under no constraint to curry favour from any person or any organization. "An inspiring teacher", he wrote, "is a marvel of light, and even a dull teacher is at least a window on the world." Legate quotes this passage as an illustration of Leacock's passion for the classroom:

"His class? — you can't keep him out of it. Preparing his lectures? — that's no more work than a lion getting up his appetite. People who do not live in colleges cannot understand the unworldly absorption of the professor's task. Poets talk of the joy of the springtime — of the month of May breaking the hills into green and filling all the air with rapture. The 'merry month of May,' says the poet. I know a merrier one. Give me the murky month of February, with the snow blowing on the window pane of the classroom, the early darkness falling already and the gaslight bright in the classroom. That and a blackboard, and a theorem, and a professor — the right kind, absorbed, ecstatic and a little silly. Give me that and the month of May may keep its fronds and toadstools as it will."²³

What is our estimate of Leacock's strength as a critic of education? I

21. *My Discovery of England* (Toronto, 1961—*New Canadian Library*), 80, 95

22. *Montreal, Seaport and City* (N.Y., 1942), 307

23. *Legate*, Op Cit., 216

24. *My Discovery of England*, 87

have emphasized the fact that he had a thorough knowledge of the subject, which accompanied him even in his wildest flights of fancy; even his comic exaggeration, some thirty or forty years later, turns into sharp and incisive comment upon the contemporary scene. Education was a subject that banished most of his cranky obsessions. Perhaps one should make an exception of his opposition to co-education. But this, I suspect, is an excuse for comic embroidery. In an anti-co-education passage he remarked, "Let me hasten therefore to say that I believe most heartily in the higher education of women; in fact, the higher the better."²⁴ He concentrated on what are the two fundamental subjects in any discussion of higher education — the curriculum and the relationship of the university to society. If he shifted the basis of his criticism, the result was not contradictions that cancelled themselves out, but an expansion of his subject. Certainly his writing on education is sounder and shrewder than his writing on literature, which was often gauche and ill-informed; or even his writing on Economics and Political Science, where rhetoric often took over.

The best writing on Higher Education has never been done by the professional educators — whether they are full-time administrators or full-time teachers. Such people are concerned with solving immediate prob-

lems, with resolving political impasses. The major contributions have been made by those eminent in other fields, who have developed a theory of society, and have then tried to see the university in the context of their total thought. I think of such writers as Cardinal Newman, Thorstein Veblen, Alfred Whitehead, and Northrop Frye. Leacock does not belong to this group. He did not have a developed theory of society, nor a capacity for sustained argument. He is a minor figure in the field, but he is an important minor figure. For he came to the subject with a strong point of view — the point of view of the humorist — and the subject of Higher Education is, or should be, a rich field for the humorist. It abounds in those contrasts that delight the humorist — contrast between what is done and what is said, between the educational process and the uses to which it is put, between the volatility of knowledge and the attempt to make it into a heavy instrument for special causes.

Perhaps these contrasts are now so great that Leacock himself could not bring them together in the pleasingly tense resolution of humour. The mode now is thick, heavy rhetoric spattered with savage jocularity. If he were alive today, Leacock would find it a difficult time for humour. But he would persevere, and he would make frequent breakthroughs into a world of light gaiety.

LEACOCK AS A LITERARY ARTIST

STEPHEN LEACOCK was a man of complex character, extensive formal education, and substantial vanity: any suggestion, therefore, that his most characteristic writing was what W. S. Gilbert called *A sudden ebullition of unmitigated jollity* seems to me to be totally mistaken. Yet the tradition of the naïve Leacock persists, for the sufficient reason that he invented it and fostered it himself. Nobody who reads his work carefully is taken in by the tradition, but then — who reads his work carefully? You do, and I do, and we are not deceived. However, there are hundreds of thousands of Leacock's readers who are not members of our mystic and devoted group. They are middle-aged people who are either tired or think themselves tired, and who will read anything labelled Humour because they imagine that it will not tax their exhausted intellects. And there are a certain number of young people who think that Leacock is, on the

whole, pretty poor stuff. Some of these are High School students, and when I talk to them I find that their attitude toward Leacock is respectful, rather than admiring; they accept him as a pinnacle — a kind of Hamilton Mountain — in the broad, level steppes of Canadian Literature. Canadian Literature is, as the schoolboy wrote about the works of Matthew Arnold, 'no place to go for a laugh.' But Leacock is still some place to go for a laugh and that is the quality that maintains his popularity, without adding to his reputation. Leacock's reputation is in the trough that gapes for the reputations of literary men after they have died, and from which reputations do not usually emerge for twenty-five years or so.

That emergence has begun. You and I, ladies and gentlemen, are the living proof of it. What are we doing here, on a Saturday afternoon — a portion of the week sacred to entertainment and refreshment — listening

to serious discussion of Leacock as a literary artist? Why are we not at a football game, or a pornographic movie? Because we are pace-setters and trend-sniffers, that's why. So let us to our holy task at once. Let us pace-set: let us trend-sniff. Let us see if we can find out anything about Leacock as a writer that we did not know before, and perhaps raise his reputation to higher ground.

He wrote a great deal of the work of his most productive period for magazines, and some examination of these magazines is illuminating, for they are of a kind now utterly out of fashion. Some of us here remember them; indeed, I remember them myself, from a period of my boyhood when the purchase of two or three magazines was a necessary preparation for a train journey. They were to be found in the reading-rooms of clubs, in the parlour cars of trains, and of course in the offices of doctors and dentists. There were several of them; one of the most durable was *Judge*, which was a successor to *Puck*, and another was *Life*. In addition to the magazines with a predominatingly humorous bias, virtually all magazines that publish fiction and articles of comment had a section for funny pieces; if you recall *Saturday Evening Post*, *Harper's*, *Scribner's*, *Vanity Fair* and *The Atlantic Monthly* as they were in the 'twenties and 'thirties, you know the sort of thing I mean. And to Leacock the English publications were also a market; not only *Punch*, but *Pearson's*, and *The Strand*

were interested in the kind of thing he wrote. Here in Canada was *Goblin*, which was not to be despised. Leacock had a large, well-paying market for his short pieces, and he cultivated it in a businesslike fashion.

I remember all of these magazines, for they all came to my home when I was a boy. It was not that my family were unusually devoted to periodical literature, but it was a way of getting whatever was new from the most popular writers of the day. Conan Doyle, P. G. Wodehouse, W. W. Jacobs, Stacy Aumonier, Roland Pertwee, Hugh Walpole, Somerset Maugham, Irvin Cobb, George Ade, Ring Lardner, Octavus Roy Cohen, Robert Benchley, Donald Ogden Stewart, Harry Leon Wilson — it was a remarkable list and perhaps the most remarkable thing about it from today's standpoint is that every one of these men thought of himself as an entertainer, as a man whose principal aim was to divert his readers, and not to hector, or depress, or bully them about that widespread modern disease The Human Condition. The readers responded with gratitude and fidelity, and the magazine paid their contributors highly, in terms of the times. Some of the writers I have mentioned — and I could have trebled the list — were artists, but all of them were craftsmen. They knew how to make themselves readable. Leacock was certainly a craftsman, and like all the rest he got what was to be gained from the magazines, and once a year he bundled up the year's successful

productions and re-published them in a book with a catchy title, usually directed at the Christmas trade.

What were the conditions imposed on him by this sort of highly professional work? One, which should not be underestimated, is that he had to produce a substantial bulk of material, so that the editors, and the public, would not forget about him. Another was that he must not experiment too boldly, or write at a length unsuited to the pattern of the specifically funny sections of popular magazines, which usually contained a funny piece or two, and some light verse. Yet another was that he must not be too sharply satirical, for the prevailing mode in humour was playful and somewhat bland. *Punch* gives us a key to the taste of the day, as it existed on both sides of the Atlantic. The editor of *Punch* from 1906 to 1932 was Owen Seaman, who became a friend of Leacock's; Seaman combined in himself the best elements of an Edwardian popular humorist, for he was learned, perceptive, a brilliant parodist and versifier, and he had a sure grip on public taste. Seaman was also immovably opposed to anything that was even slightly off-colour, and he detested humour that had a cruel edge. Very little of what Leacock wrote appeared in *Punch*, and it is probable that Seaman thought his style outside the *Punch* range. But Leacock regarded *Punch* as a model, and in *My Discovery of England* he regrets his lack of that ability to write skilful light verse

which was Seaman's particular glory. And Leacock certainly followed the *Punch* line in avoiding anything that was *risque* in his writing. Now and then some hint appears in his work that he was aware of a world in which sexual irregularity existed; in *Arcadian Adventures with the Idle Rich* we get strong whiffs of it; but it was not a theme he explored. I think we must say that, like Owen Seaman, he thought it below the dignity of a gentleman. There was also the plain fact that such stuff did not sell in the market he had made his own.

Where did people turn for off-colour humour in those days? The question is interesting now, when *Punch* has become almost as gamy as *La Vie Parisienne* used to be, and when there are plenty of publications that specialize in off-colour jokes. But during Leacock's heyday many daring young sprigs of the '20s turned to *College Humour* for sexually sophisticated humour. I remember it well; my elder brother never missed it, and I used to sneak his copy out of the drawer of his dressing-table and read it in order to acquaint myself with the way the world wagged. There were innumerable jokes between fraternity-house drunks who were comically called Frosh and Slosh; there were daring exchanges between girls who were called Debs and Co-eds about garments called Teddies; there were many pictures by John Held Jr. of boys and girls with heads like billiard balls and noses like cribbage pegs, who wore either Oxford bags

containing hip-flasks, or rolled stockings and Teddies. I remember one drawing of a girl shrugging herself into a transparent nightdress, under which was printed the words —

Highty-tighty

Aphrodite

Acting thus

On Saturday nighty!

It very nearly fused my entire nervous system for a week.

I recall yet another, which showed a tiny mouse looking with a speculative eye at a girl's legs. The verse was —

Hickory, dickory dock;

The mouse ran up the clock.

Good gracious, how shocking

'Twas the clock of a stocking!

Hickory dickory dock.

Later, in my undergraduate days, when I was reading the works of Sigmund Freud, I realized that this was a sophisticated and deep rhyme, for it provided a diverted discharge of energy from the primal fear felt by all women that a mouse will run up their legs and impregnate them; it is of course a displacement from the fear of rape which is part of the Great Primal Fear that engulfs us all, and which manifests itself in the male as *Mausgeschlechtlichkeitbesorgnis*, or Jealousy of the Superior Potency of Mice.

It was not to such racy pages that Leacock contributed; he seems to have had a fully Victorian sense of public propriety, and it would never have done for him. He was a thorough craftsman in writing for the

best-paying market of his day, and if his books seem to us now to be composed of rather short-winded pieces, that is the explanation. Furthermore, if we can take the time to look back through the files of such magazines as *Judge* and *Life*, we see how superior Leacock's contribution was to most of what appears there. There is in every age a considerable amount of light literature that is amusing only so long as it meets the demands of a current fashion. Once that fashion has passed, it is as dead as any kind of writing can be — deader even than out-of-date theology.

But the point I am making — that Leacock paid careful attention to the demands of his market and established himself as a craftsman — is quite enough to dispose of any idea that he wrote naïvely. He was even less naïve than Mark Twain, that hard-bitten old purveyor of fancy goods to the nobility and gentry. Mark Twain has left us a few things that he could not publish in his time, either because they were too dirty or too blasphemous; obviously he wrote them simply because he wanted to — because he could not help it. So far as I know, there are no Leacock manuscripts that have to be kept under cover until the right moment comes to publish them. Leacock seems never to have written anything he could not sell. During the latter part of his life, when his desire for money outweighed considerations of pride or propriety, he wrote advertisements — pamphlets and even

books to order. To produce them Leacock had to trade on his name and reputation and he seems to have been a hard trader. He did not need the money; he was quite well off when he died, and lived in the kind of luxury he liked; he did not *need* it, but apparently he wanted it. As a craftsman he knew how to get it.

But I have undertaken to talk to you about Leacock as a literary artist. Had he anything that could be called artistry, and how did he exercise it? I think he possessed a considerable degree of conscious artistry, and I think he was fully aware of it. It may even be that he exaggerated it.

His artistry may be approached in terms of what it was not. He was not an artist in form. His frequent attempts at parody prove it. *Nonsense Novels* is one of Leacock's most popular books, and one of his funniest. It is quite funny enough to distract our attention from the fact that he meant its contents to be a series of parodies. But he never had the gift of the first-rate parodist. When we look at the work of the great parodists, like Max Beerbohm and Wolcott Gibbs, we see that their power comes from a thorough — indeed, almost an uncanny — appreciation of the style of the writer who is being parodied. Beerbohm certainly admired Meredith, Henry James, Shaw, Chesterton, Belloc and the other writers of great attainments whose work he parodies in *A Christmas Garland*; even those whom he dislikes and despises, like Kipling, Wells and Maurice Hewlett, he thor-

oughly understands. This is true also of Gibbs, who usually parodied writers he did not admire, but whom he deeply understood, and his satire is deadly. The form, the vesture of a man's mind, were very clear to Beerbohm and Gibbs, and they wrote as their subjects might have written if the gods had suddenly struck them with madness. Leacock cannot do that, and I doubt if he would have wanted to do it. The work of a great parodist is a combination of love, hate, derision and a Protean ability to put on another man's style which is a rare and not entirely agreeable gift. Leacock's mind was certainly not simple, but it was strong, direct and masculine; he did not want to strike any other man down with that man's own sword, which is what the parodist does; he would rather flatten the subject of his wrath with a sword of his own — or even with a club, if a club was more convenient. And so, although *Nonsense Novels* is a delightful book, and contains some of Leacock's best inventions, we do not think of it as a volume of parody. The fabric of Leacock's mind was all his own and he could not and did not want to disguise it.

He was not an artist in the creation of character, though if he had desired it I am sure that he could have been so. Two books of his are the work of a man who could have been a novelist — *Sunshine Sketches of a Little Town* and *Arcadian Adventures with the Idle Rich* — and in them we can find much evidence of the kind of obser-

vation and selection that are among the gifts of a man who seeks to create character. But these gifts are secondary to a principal quality which for want of a better term I shall call Impersonation. Leacock wrote about his people from the outside; he never got into their skins. And though they amused him, he did not really like them. The people in *Sunshine Sketches* were people he had left behind: in *Arcadian Adventures* they are people it gives him little pleasure to know. Has it ever occurred to you that there is not one character in either of those books to whom we would liken a person we did not wish to deride? Leacock's idol, Dickens, created scores of characters who are both absurd and immensely likeable. Leacock, never. If I say to a man, "You remind me of Mr. Pickwick," he knows that Mr. Pickwick had a very foolish side to him, but on the whole he is pleased. But if I were to say to any one of you, "You put me in mind of Dean Drone, or Josh Smith, or Jefferson Thorpe", you would bear me a grudge to your dying day. And it is not because the people in these books are the creations of a young man; young men jeer at all sorts of people and flail about fiercely because they are trying to find out what they themselves are like. When Leacock wrote these books he was in his early forties, and if he was ever going to see more in his characters than their faults, that time had certainly arrived. Over and over again in his writings Leacock assures us that the greatest

humour is kindly: over and over again much of his best work contradicts him. But a man who wants to be a novelist must see people, if not in the round, at least in the quarter-round; Leacock always saw them flat — very funny, but flat, and from above.

I should like to dwell on this aspect of his character and writing a little longer, because it is a sensitive area, and greatly open to misunderstanding. Last summer, on Dominion Day, the CBC broadcast a program about Leacock which contained some opinions about him by people in Orillia who had known him. One was a taxi-driver who, when asked if he liked Leacock, replied, "No, I didn't like him because he didn't like us." My response to this was: "Well, what about it? Why is it assumed that Leacock had to like the people of Orillia, or indeed anybody? We know that his family affections were strong, and that he had some friends whom he valued greatly. He was — except when his hot temper was aroused — courteous in his public demeanour. Why this suggestion that he somehow fell short of his duty in not liking everybody?"

The answer, I think, is that the obligation to like everybody is one that mankind lays on its humorists, and for a very good reason: humorists are feared. They are likened to capricious surgeons who may suddenly lance a boil at a party, or chop off somebody's leg at a dance. They have a gift which is not only delightful

but somewhat uncanny, and they may exercise it without warning. Therefore we want our funny men to give us constant reassurance that they like us; that when they are with us, they will draw in their claws. They may say things that will not immediately be understood or which, if understood, will cause some humiliation, or even pain. I think this explains the general opinion that it is very much more praiseworthy to write tragedy, rather than comedy: everybody can, in some measure, comprehend what is sad, but not everybody understands what is comic.

Now Leacock was not only comic, but deeply ironic, as well, and the ironist is a man who says one thing and means its opposite; irony is to sarcasm what the stilleto is to the lash. Another of his characteristics was that he had little patience or sympathy with failure. Like many successful men, he seems to have thought that those who had not succeeded lacked either industry, gifts or character. I do not propose to discuss the rights or wrongs of this point of view. I am content to point out that successful men who wish to be liked — politicians, for instance — use an impressive amount of their energy in persuading mankind in general that they are themselves very ordinary fellows whose success is the result of blind fortune — a mere fluke. Leacock had no time for that sort of thing. As I have already said, his character was powerfully masculine and essentially honest. He did not waste time in pre-

tending to like people about whom he cared nothing unless there was some pressing reason to do so — if, for instance they were his readers or his hearers at one of his immensely effective public appearances.

I hope that I am not making Leacock sound a hateful man; he was nothing of the kind. But in a very broad area he was an honest man, and he was also a wounded man. His childhood, which he associated with Orillia, had not been a happy one. Orillia may have meant to him a narrow world from which he had escaped, and to which he returned in triumph. None of this was Orillia's fault. The feeling was a subjective one, residing in Leacock.

As for liking everyone, a lot of dreadful nonsense is talked about that. It is part of an extremely watered-down and sentimental concept of Christianity, for which Leacock had no use at all. He was a Stoic, rather than a Christian. It may be noted in passing that Our Lord, when he hung upon the Cross between two thieves, did not feel moved to say that He liked them both.

Leacock's somewhat haughty attitude toward the generality of mankind limited his art as a writer, but when has there ever been a writer upon whose limitations the critic did not delight to dwell? Let us talk of his strengths, and in my opinion the greatest of these — apart from the disposition of mind that made him a humorist — was his gift for language.

Leacock did not use language elaborately; he did not pluck all the strings of the harp. I think it would be false to suggest that he exercised a conscious art in his writing, and I base that remark on the commonplace and often muddle-headed stuff he wrote in his book *How to Write*; if he had himself written as he counselled the readers of that book to write, he would not have been half the man he was. His art seems to have been instinctive, but there is nothing wrong with that. When he tried to write with conscious art, as in the tricky little piece called *Number Fifty-Six* which he included in *Literary Lapses*, he was not in his best form. His best writing seems to take its rhythms and cadences from ordinary speech, but that is not to say that ordinary speech transcribed comes out as Stephen Leacock.

Sometimes people make the mistake of thinking that this is so, and they dramatize Leacock's short pieces by the simple expedient of extracting all the dialogue, and expecting it to be dramatic. The results are dismal. When Leacock wanted to write a play, he very sensibly collaborated with an experienced playwright, Basil Macdonald Hastings, and did the job properly. The result is the amusing and successful one-act farce "Q", in which the great comedian Charles Hawtrey appeared in 1915. In it we have dramatic dialogue that moves forward in a brisk fashion from beginning to end. In the amateur dramatic versions of which I speak, there

is no progress, and often the action is barely comprehensible. It is because Leacock, like Dickens, wrote dramatically, but most of the drama lies in the portions that are not dialogue. Dickens does not dramatize effectively unless he is completely re-written, with all the loss entailed therein, and the same is true of Leacock.

This rhythm of common speech is deceptive. Mark Twain had it. Dickens had it, too, though it is only one of the manners in which he could write, and the rhythm of Dickens' era, and Dickens' country, does not seem particularly colloquial to us here and now. But Leacock is a master in this prose of brief sentences, ordinary vocabulary and apparent simplicity. But what a variety of nuances he wrings from it! And what brilliant use he makes of that subtle rhetorical device, the Disappointed Climax! If you doubt me, try re-writing a characteristic piece of Leacock's prose, to see if you can say what he says in fewer and better words. Within a limited range, he has utter mastery, and I think we may deduce that it comes from an inborn feeling for his medium, rather than from any conscious art.

How do we deduce this? By reference to what Leacock says in that book *How to Write*. Personally I have little trust in books with such titles. People who can write, in any case I can think of, have taught themselves, by one means or another. But there is a confident tone in Leacock's title

that puts me on my guard: to know that one can write oneself is an admission that one may make to oneself in the secret watches of the night, though it is better to receive the assurance from the outside world: but to assert that one can teach somebody else to write is to tempt the gods to visit their most exquisite ironies upon one's offending head. *How to Write* — it seems to echo other confident, hollow titles: *How To Be a Success at Parties* — *How to be a Ventriloquist*.

How false it is, this twaddle about writing! It is hard enough to learn an interpretative art — playing the piano or the French horn, for instance. But to learn a creative art is an impossibility; a teacher may provide some hints, some cautionary words, but the creative artist teaches himself. Leacock taught himself: what possessed him to think he could teach others?

What his book called *How to Write* really teaches is not how Leacock wrote, but how he read. His tastes in writing, as he reveals it in this book and in his other writings, was undistinguished. Dickens appears to have been the only writer of genius for whom he had unstinting admiration, and even in his biographical and critical book about Dickens, Leacock cannot take the trouble to get the names of Dickens' characters quite right, and from some of his judgments one is inclined to wonder if he had really read all of Dickens' work. He jeers at Shakespeare; he jeers at Ibsen. He had no ear for poetry, though he

wrote some humorous verses himself that are by no means bad. He persistently misquotes poetry in *How to Write* — an inexcusable carelessness which any competent student could have helped him to avoid if he had thought accuracy important. Leacock seems to have admired, and recommended, O. Henry more than any other author of his day — a taste that the passing of time has rendered incomprehensible. He appears to have had a spotty knowledge of literature and no taste. I have already said that he was no parodist; parodists have great taste, and cannot get along without it.

Now I do not really believe that this matters in the least. It is a romantic delusion to suppose that writers all have the minds of professors of literature, that they refresh themselves by constant ecstatic gloating over the classics, and that they bring an exquisite critical consideration to the work of their contemporaries, and especially to new writers of promise. The biographies of authors of the highest rank show that they very often read little themselves, didn't like the classics and loathed their contemporaries especially the young and threatening ones. Writers are artists, and often men of strong and passionate nature; they are creators, not critics and appreciators, and the two types of mind are widely different. The fact that Leacock's taste was patchy and sometimes absurd makes no difference at all to his achievements as a writer: it does,

however, mean that he was giving himself away with both hands when he wrote a book and called it *How to Write*.

On several occasions, on the platform and in print, I have said that Stephen Leacock was a genius, and by that I mean simply that he could do with comparative ease and repeatedly what most people cannot do by the uttermost application of their abilities. What he could do was to write brilliantly funny short pieces, that still delight us. He could also write in another vein — the vein of the essayist, in which his opinions about education, politics and society are set down with vigour, and illuminated by the same brilliant perception of the absurdity of human pretension, the same wit and cogency, that make his purely funny writing great. He was an artist in his command of a colloquial, spare style that, even at its most extravagant, owes a great deal to the classical foundation of his education. He may be extravagant, but he is never baroque; in the true sense of the word, his best writing is chaste. But he could be false to himself, and when he became didactic — as in *How to Write* — that is what happened. He was himself doing what he mocked so shrewdly when others did it — he was pretending. But a genius he certainly was, and like many a genius he did what he did without being in the least able to explain how he did it. I say this with caution, for I do not want to be misunderstood: his primary gift was

for feeling, not for thinking, and this was what lay behind his best writing. Writers *may* think, but they *must* feel.

A thinker may write, but he had better not write poetry or fiction. Bertrand Russell wrote fine prose but it was a pity that, toward the end of his life, he offered the public some facetious, wizened little short stories. Bernard Shaw, though unquestionably he thought, wrote his best plays from a ground of feeling. I stress this point because we in universities have a tendency to deal with literature in terms of thought — probably because it is easier to fake thought, both as professor and student, than it is to fake feeling. The trashiness of pretended feeling is easily detected; pretended thought evades detection for varying lengths of time, but sometimes it can fool the public for a generation or two.

Other speakers today have dealt with Leacock as a thinker, and you have heard what they have said. I have tried to talk about him as a feeler, as a man of emotions and sympathies which were not invariably of the broadest or the noblest, but which were strong and wholly his own. It was this Leacock — the man of feeling and I may say the man of passion — who wrote the works that give him his place as a literary artist. Heinrich Heine wrote: "Out of my great sorrows I write my little songs." It was from his stoically endured disenchantments that Leacock wrote what he himself called "Funny pieces, just to laugh at."



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Marshall McLuhan, Editor

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Oh, what a blow
that phantom
gave me
(Don Quixote)

Edmund Carpenter

New Guinea has been called “the last unknown.” Its highest mountains are snow-covered and below these, in early morning, you walk through clouds, your breath visible. Yet tropical swamps lie immediately north and south.

Port Moresby, the capital, resembles a southern California town with air-conditioned offices, supermarkets and drive-in theatre. Three hundred miles to the west, isolated bands practice cannibalism.

The bulk of the population lies between these extremes, living in thousands of tiny villages and speaking over 700 separate languages.

Last year the Administration of Papua and New Guinea hired me as a communications consultant. They sought advice on use of radio, film, even television. They wanted to reach not only towns-people but those isolated in swamps and mountain valleys and outer islands.

I accepted the assignment because it gave me an unparalleled opportunity to step in and out of 10,000 years of media history, observing, probing, testing. I wanted to observe, for example, what happens when a person – for the first time – sees himself in a mirror, in a photograph, on film; hears his voice; sees his name. Everywhere New Guineans responded alike to these experiences: they ducked their heads and covered their mouths.

When a shy or embarrassed person in our society ducks his head and covers his mouth, we say he is “self-conscious.” But why does consciousness of self produce **this** response? Does the acute anxiety of sudden self-awareness lead man everywhere to conceal his powers of speech-thought (his breath, his soul) behind his hand, the way an awakened Adam concealed his sexual powers behind a fig leaf?

Could it be that the deeper message these media conveyed wasn’t sanitation or Westminster democracy, but self-discovery, self-awareness? Could this in part explain the riots in Rabaul and Kieta, towns where radio was part of daily life? The people of Rabaul had been in close contact with Westerners since 1885, and now suddenly they were marching in the streets.

The Australian administrators were dedicated men, many of them ex-teachers and nearly all from Protestant middle-class backgrounds. They believed in democracy, purity, and a Personal God, and they promoted these goals via radio. Yet those

who had listened most attentively to these sermons were now in angry revolt. The Administrators were puzzled and asked: what message had really come through?

Both the Australian Broadcasting Corporation and the Administration radio network produce first-rate programs for the education and entertainment of the local population. But that population is so incredibly diverse that strange messages often reach strange ears.

Radio in New Guinea opens with a Moral Re-armament chorus and for the rest of the day the air waves become a veritable **Finnegans Wake**: native sacred songs made public; Voice of America on Tricia Nixon's fashions; country music; Peking Radio on anti-Stalin revisionists; Christian fundamentalism; local news; stock exchange reports; an interview with a 76-year-old choreographer on the status of Australian ballet; and frequent Racing reports.

In one remote area I saw a tattooed, skewered-nosed, feathered, painted, armed audience, including one local beauty nursing a piglet, watch their first movie: one film was an interview with the British Foreign Secretary on the 1957 German Arms Treaty. Another dealt with the use of closed-circuit TV for traffic control in Sydney. I have no idea what these warriors thought of a film of elderly Australian ladies flying kites.

But in a deeper sense, it didn't matter. What mattered was that these media were changing the environment itself.

In one experiment we loaded a dugout with electronic equipment and penetrated an isolated area between Sepix River and the Highlands. Until recently great sections of New Guinea were restricted, though reasonably accessible. Today, with an outboard motor and high water, entering prehistory is so easy, so casual, that the astonishing fails to astonish and suddenly you find yourself in the prehistoric past, gin and tonic in hand.

As we approached our destination, the village leader stood alone on the bank confronting us the way Axel Heyst confronted the mysterious trio approaching his remote island in Conrad's **Victory**: their appearance, Heyst felt, was "like those myths current in Polynesia, of amazing strangers, who arrive at an island, gods or demons, bringing good or evil to the

innocence of the inhabitants – gifts of unknown things, words never heard before.”

We gave him gifts and gradually the other villagers came out of hiding. Soon we established some sort of rapport by distributing balloons, an invention unknown locally. Then we set up cameras to film responses.

First we gave everyone a mirror. Rivers are muddy here, permitting almost no reflection, and though a few men had tiny scraps of mirrors, acquired through distant trade, no one had ever before really seen himself. The effect was paralyzing: after the initial shock, they stood transfixed, staring at their images, only their stomach muscles betraying great tension.

We gave each person a Polaroid shot of himself. At first there was no understanding. The photograph was black and white, flat, static, odorless – far removed from the reality these natives knew. They had to be taught “to read” photographs. I pointed to a nose in a picture, then touched the real nose; etc. Gradually recognition came into their faces. And fear. Pressing his photograph against his chest, each man would stand frozen, then slip away to study his portrait alone.

When we projected movies of their neighbours, there was pandemonium. Fear has kept villages isolated, even after tribal warfare stopped. In one village I stood on a hilltop, looking out over a forested valley, and asked about a settlement, smoke from which rose in the distance. No one had ever been there. No one knew anyone who had. No one had seen a single member of that not-too-distant village. There were only legendary accounts.

Now they were **seeing** these legendary strangers and they were absolutely wild with fascination. But not fear. In one amazing stroke, fear was replaced by familiarity.

Seeing **themselves** on film was quite a different thing. It required a minor logistic feat to send our film out, get it processed, then returned, but it was worth the effort.

There was absolute silence as they watched themselves, a silence broken only by whispered identification of faces on the screen.

We filmed these reactions, using infrared light. In particular, we filmed the terror of self-awareness that revealed itself in uncontrolled stomach trembling.

The tape recorder startled them. When I first turned it on, playing back their own voices, they leaped away, spears drawn back. They understood what was being said, but didn't recognize their own voices, and shouted back, puzzled and frightened.

But in an astonishingly short time, these villagers, including children and even a few women, were making movies themselves, taking Polaroid shots of each other, and endlessly playing with tape recorders. No longer fearful of their own portraits, men wore them openly, on their foreheads, in front of their feather headdresses. Friends greeted them by examining these pictures.

The effect of all this was Instant Alienation. Their wits and sensibilities, released from tribal restraints, had created a totally new identity: the private individual. For the first time, each man saw himself and his environment, both hitherto invisible because they had been too close.

When we returned to this same village, months later, I thought at first we had made a wrong turn in the river network. A new village stood there. Houses had been rebuilt in a new style. Men wore European clothing. They carried themselves differently. They acted differently. Some had disappeared down river to become squatters in a government settlement.

In one brutal movement these villagers had been hoicked out of their tribal existence and transformed into detached individuals, lonely, frustrated, no longer at home in their old environment or, for that matter, anywhere.

Like Matthew Arnold's Scholar Gypsy, they wandered "between two worlds,/one dead, the other powerless to be born."

There will be those who, perhaps rightly, object that no one has the right to do this to another human being. But what we did here, in microcosm, was precisely what electronic media, especially television, have done to all of us, with much resulting anxiety and psychic alienation. In accelerated form, we duplicated the effects of electronic media on Western society. If such experiments bring understanding of processes now blindly accepted, we all may profit.

I was sufficiently shocked by these results to urge the New Guinea government to restrain the use of electronic media and if not, to prepare for chaos.

On a happier note we made other findings. For example, I

don't believe you can say "No" visually.

It's easy to say "No" verbally. Words are symbols which stand for a reality but do not resemble that reality.

A picture, however, often resembles the reality, especially when that picture moves. This makes pictorial media enormously persuasive. It requires an act of will to disbelieve what one sees and an even greater will to accept the reverse of what one sees.

When the New Guinea government circulated large posters that said: PROTECT OUR RARE BIRDWING BUTTERFLIES, and beneath this pictures of the butterflies in question, along with the warning: "\$200. fine for collecting: \$20. penalty per specimen in possession thereof," natives immediately collected these butterflies and took them to Agricultural Officers for payment.

A common beer ad in New Guinea shows a foaming glass with the caption: **Be Specific, Say South Pacific**. When the sale of beer was permitted to natives, the London Missionary Society posted identical ads, except for the caption: **Say No**. Beer sales immediately increased. Natives ordered **No**.

The Government produced a film called **Stori Bilong Stilman** which showed a native committing five thefts. In the last, while an accomplice distracts a shopkeeper, the thief fills a bag and then the two go outside where they happily eat the pilfered food and divide the stolen money. Native audiences were delighted. The thief, of course, is arrested and taken to jail, but the message was clear: stealing is fun, easy, rewarding and this is the way it's done.

I suspect crime increased wherever the film was shown. I do know that the lead actor was soon in prison, convicted of precisely the crime he played in the last scene.

The most sacred ceremony in the Sepik area is the male initiation rite, forbidden to women on penalty of death. For reasons never stated, we were permitted to film this rite, though our chief cameraman was a woman. Not only was she permitted inside the sacred enclosure, but she was assisted in moving equipment and directed in positioning it. The ceremony was even delayed while she re-loaded.

The initiates, barely conscious at the end of their ordeal, grinned happily when shown Polaroid shots of their scarified backs. The elders asked to have the sound track played back. They also asked to have the film brought back to be projected,

promising to erect a sacred enclosure for the screening. Finally they announced that this was the last involuntary initiation and they offered for sale their water drums, the most sacred objects of this ceremony and something no village had hitherto ever parted with. Film had replaced a ceremony hundreds, perhaps thousands, of years old.

These new media enjoy great prestige. If villagers ignore the orders of their leader, the Government may record his speech on tape, then release it on radio. The leader then assembles his recalcitrant subjects who attentively listen to the broadcast coming from a radio he holds in his hand. It works.

Toward the end of our work, we went among the Biami, a very primitive group who are active cannibals. Yet I must record that their company was a delight, full of love of children, humor, thrust for life. The immediate cause of cannibalism, or at least its rationale, is sorcery, a belief that the victim has harmed another by psychic means. Government policy is to lean steadily on these people, not cruelly, but not letting up until killings stop. Patrols raid villages at dawn, bash heads, and take murderers off to prison for six months.

But this persuasion has largely failed and there is always the danger that the bashed might someday think of bashing as a solution to their own problems.

Instead of asking why men killed, I asked why some had refrained. I always received the same answer: fear because their names were entered in "The Book" (Census). I recommended that Patrol Officers make a great ritual of entering a man's name in "The Book," and attach to each name a Polaroid shot of the man, which he would be shown annually, but not allowed to keep.

This worked in medieval England: the Doomsday Book was so-called, not because it was for taxation, but because it recorded names. When a cop takes down your name, he takes you over.

Our research took us thousands of miles by dugout and hundreds of miles on foot along leech-infested jungle trails. But I would be grossly misleading if I suggested hardship. New Guinea is a lovely, lovely land, endlessly fascinating. When I returned I left behind one of my sons. He's now a Patrol Officer in short pants and bush hat, a young man growing up in a young country.

The horse that is known by touch alone

Harley W. Parker

Is what you see necessarily what the Russian sees? All of us have seen icons either actually or in reproduction, but few have even thought of them in terms of the people who made them. Few consider that some cultures actually perceive things differently from others. In our culture we tend to think that the way things look is the way they are. Let us think about that.

Let us suppose that, never having seen a horse, you were blindfolded and asked to learn about a horse from touch alone. After the animal had been led away and the blindfold removed, what sort of a drawing would you make to explain your new-found knowledge? Without question, you would draw a horse showing all four legs, because one leg cannot hide behind the other in the world of touch; all legs would be of an even length because they all **felt** the same length. There would be no perspective, or making one leg shorter than another to convey an illusion of distance. There would be no foreshortening either for touch has no point of view and therefore does not recognize visual foreshortening which is the result of looking at something from a fixed position in space. The image of the horse would have two eyes and yet the typical Roman nose. In other words, while presenting a side view of the nose, for this is the view that would come out of the sense of touch, we nevertheless have to show eyes which are on opposite sides of the head and therefore not simultaneously apparent to vision alone. Your drawing of the horse would be very like a child's drawing, like the drawings of the cave dwellers of Altamira in Spain 17,000 years ago (p. 98), or like the cubist drawings of the early twentieth century (p. 99).

Some five centuries ago Leonardo da Vinci, the great Renaissance painter said, 'seeing is believing', but he failed to quote the end of the saying which comes from the time of the icon: 'Seeing is believing but to touch is the word of God'

'Seeing is believing but to touch is the word of God'

The people of the icon believed in the truth of touch. Therefore their images were of the object as known by touch with great stress upon the outline. The icon is definitely not the picture of a certain person in a certain place at a specific time. In fact, because it is not a representation of any individual person as he or she would have appeared, it is an image that is timeless and lives in all spaces. Its meaning depends on the fact that it

**Who's calling whom
to worship what?**

In the Middle Ages, the icon expressed a way of life. All times and all spaces of the culture existed in the image of the icon. It was not simply a picture of any mother with any child. Its multi-levelled meanings include the broadest idea of mother love as well as the meaning of the divine.

Today, advertising expresses a way of life. All the 'good' times and all the 'beautiful' spaces of the culture exist in the ad. It is not simply Joe kissing Sally. Its split-level meaning includes security, love, children, home making, romance, success, status. In fact, everything desirable by our cultural standards is present. It is a call to worship and to support a way of life.



'Our Lady of Vladimir' circa 1130 A.D.

**Give her L'Aimant...
before someone else does**



L'AIMANT
parfum de **COTY**
IMPORTED FROM FRANCE



© COTY, 1964—ALSO AVAILABLE IN CANADA.

from the April 4, 1964 issue
of *The New Yorker*
Magazine.

is; it exists as a call to worship.

Let us now take a look at the illustration (p. 99). It is the exact opposite of the icon. Its reason for being is that it illustrates an event which happened at a certain time and in a specific place and from a single point of view. This idea of art first appeared with the Greeks about 500 B.C. (earlier isolated instances occurred in Egypt and elsewhere). It developed with the Romans but became dormant during the Middle Ages. It was reborn in the fifteenth century and developed very rapidly after the invention of printing. This relationship between 'naturalistic' art and printing is a very interesting one which really requires a great deal of explanation.* At this point, however, I will merely say that phonetic lettering has the unique power of translating the whole resounding world of speech into a series of abstract symbols, A, B, C, etc. This power, which the phonetic letters possess, is, indeed, abstract because it separates the sense of sight from all the other senses. Walk into any library if you want to get the full impact of the separation of sound and sight which is so much a part of the life of the reader. In the same way the most visually realistic picture may be regarded as abstract because it separates the sense of sight from the other senses, notably from the world of touch.

*See *The Gutenberg Galaxy* Marshall McLuhan, University of Toronto Press 1963

- 1 **This Buffalo was painted, not for man, but for the Gods.** Hidden away in caves these paintings were magical symbols created to control the environment — to control the buffalo herds so they could be hunted. This, too, is an icon — not depicting a particular buffalo, but the buffaleness of buffaloes. It is not an image as seen; it is an image of the known — known through all the senses, of touch, smell, sound, taste and sight.
- 2 **Is this a picture of the Beatles painted by Picasso in 1921?** The musicians are painted as they are known through all the senses not as they are seen at a given time. It is truly a twentieth century icon. Just as in the case of the real icon, you can't stand back and look at it. It's all or nothing!
- 3 **Who froze the action?** The illustration always shows action frozen in a narrow slice of time and in a specific space. It always talks about specific people. One thing at a time is the essence of the illustration just as it is the rallying cry of literate man. 'One thing at a time and that done well.'



'Black Bull' (detail of a cave painting)
circa 15,000–10,000 B.C.

**The illustration
is what we see
The icon is
what we know**

To put it very simply, let us say that the icon maker while relatively illiterate in our present meaning of the word, was remarkably literate in terms of his response to the world through all his senses. He did not believe that the visual world was the real world. How could he? He didn't perceive it in that way. There is the story of the primitive man who pointed out to a photographer that his picture could not be of a bird flying, since a bird cannot fly with one wing. (At the moment of exposure, one wing was hidden behind the body of the bird.)

What is happening in the world of art today? Why do the artists seem to feel that a painting of a man does not have to look like a man? Can it be that we no longer have the Renaissance faith in the eye as a perceiver of truth? Someone has pointed out that the ten greatest scientific discoveries of the last forty years cannot be seen. They have occurred in areas of electronics, atomic physics or medicine which are below the level at which we can see even with the aid of an electron microscope. Today's world has to depend increasingly upon our senses other than sight, and the logic of those senses for its appreciation of reality. But, one asks: what is the logic of the other senses? I can answer that by quoting Alex Leighton: 'to the blind all things are sudden'. In other words, the blind man



Pablo Picasso's Three Musicians, 1921.

2



from the November, 1961 issue of *Scope*

3

walking through the world encounters things suddenly. Here is a chair. Here is a table. Lacking sight he has no ability to anticipate — everything occurs suddenly. This suggests that the opposite is also true: to the sighted man nothing is sudden. The stress on the eye which was so much a part of man's life from the fifteenth to the nineteenth century insisted on perspective, the ability to look back along the long line of time and to speculate about the future. The logic of the other senses, as these are brought into play by our electronic media is involvement — total involvement is NOW.

**Through
Advertising and
Entertainment
we are
re-entering
the age of
the icon**

The teenager today finds himself pulled in two directions simultaneously. On the one hand he is called upon by his parents and most of his teachers to fit himself for a world which no longer exists, a nineteenth century world based on an understanding through lineal, sequential logic — the world of the book with its beginning, middle and end. On the other hand, he is **hoiked** into the twentieth century world of immediacy — the tremendous importance of NOW — through the communication techniques of radio, television, newspaper and telephone. The TV viewer who saw the death of Oswald saw it before the man on the spot could turn his head.

What has all this to do with advertising? I believe that it is absolutely impossible to understand the impact of our modern communication techniques without some understanding of the fact that every method of communication causes the receiver to view his world differently. To understand this, it is merely necessary to think of the world as the nineteenth century man conceived it before automobiles, radio or television. Advertisers, in their attempts to make you do those things which would be profitable for them and to leave undone those things which would give them no return, are concerned with the ways in which people use their senses to understand the world. For it is only in this way that advertising can create the tribal rhythms to force you to dance their dance.

I am not trying to suggest that advertising is immoral. Rather it is completely amoral — morals are irrelevant. It totally ignores moral standards except as a violation of good taste that might turn the public against the particular product being advertised. The advertiser feels that his responsibility is to sell products.

Such separation of the activities of man away from moral and ethical standards of the community is not new. In the nineteenth century too, people believed that it was necessary to treat some activities as though the public good did not matter. A casual glance at the way in which workers were exploited in the nineteenth century, and this includes small children, will prove it. As a matter of fact, the 'pay attention to religion on Sunday' aspect of contemporary life is in itself a part of the belief that all of life is divided into a series of compartments which have no real effect upon each other. Such an attitude is stressed by the reinforcement which the book gives to the development of the unique, individual viewpoint, separating the man off from the tribe silently reading.

**Today we
live in
each other's
pockets**

My point is, that, in today's world where communication from all sides is immediate, people become conscious of the interacting quality of all aspects of life. While nothing that we do has ever existed in a vacuum, modern communication with its great speed tends to make us aware of this fact. If we accept the idea that, 'no man is an island' then we must also accept the fact that today we live in each other's pockets. The electronic media have given us eyes to see and ears to hear the effect of insufficient technology on backward countries. A generation ago our media did not allow us to have immediate access to the problems of the world. By the time we heard about them they were already out of date and this allowed us to have a certain amount of detachment. In a very real sense we were not our brother's keeper. Today, when a Lumumba is killed or a Kruschev beats his shoe on a desk all the world springs to attention. Mao Tse Tung is better than coffee at keeping us awake.

Recently, advertising has begun to respond consciously to the idea of total involvement. It is tending to become much more iconic. (Remember that the icon comes from the mediaeval world of sound and touch where all communication is immediate.) Each product advertised is presented in depth with an attempt to explain what it means in terms of all our senses. It is not enough that an object looks good but it must also smell good, feel good and, if it is applicable, taste good and sound good, now and forever. (See ad on p. 97.)

In one sense all ads are iconic. The impact is not of a single

ad but of all ads together. That is why I find criticism of advertising based on single ads rather pointless. We must be aware, not of single ads but of advertising. An ad for a Ford sells Cadillacs although advertisers hate to admit it. Advertising sells a way of life. How many stretchies does a Coca Cola ad sell? The thirteen year old sophisticate with her teased hair and teasing air is not only responding to her favourite movie star but to a total concept of her place in the 'world'. This concept is, to a large extent generated by advertising. In its ability to permeate the whole fabric of life. Advertising is an icon — a call to worship! Advertising is, in more senses than one, a graven image.

Of course, the artists are aware of the implications of total impact. When I was in San Francisco this winter I saw a cubicle called **Seven Foot Poem**, made by 'pop' artist Gerd Sterns. This was a compartment in which you seated yourself to be bombarded with highway signs and other images from simultaneous projectors, sounds from several tape recorders, all designed to make a commentary on the effects of speed and automobiles on the young of today. It was truly an iconic event, treating all times as simultaneous, blasting away at the eardrums and twanging away on the stretched nerves. Almost all people over forty hated it and all under twenty loved it.

**To the 'square'
it is utter bedlam
to the 'cat' it
is life itself**

Let us take a look at the Beatles for an understanding of today's icon. There have been better singers and handsomer young men. Where lies the attraction? This question is not too far away from advertising for the Beatles are probably capable of selling the female teenager almost anything. Of course, the songs sung have sentimental value, but this cannot be the answer, for the airwaves have been filled with sentimentality for years. Somehow these lads from Liverpool have created a mask which exactly represents the feeling of the teenager in Britain and North America. It is interesting that the bookish youngster appears to frown on the Beatles, a feeling not shared by her electronically-oriented sisters. The TV-oriented teenager really seems to 'dig' them. The mops of unkempt hair (a symbol of the beat) coupled to very ordinary good looks perhaps suggest that the young females can have their cake and eat it too. Such success (wealth) coupled to such bohemianism perhaps appeals to that blend of the avaricious and romantic cultivated by our advertising.

**The Beatles are
the tribal drum
eaters of today!**

They don't have jobs; they play roles in our society. It is this role playing with its stress upon the importance of now — to **have** now, to **be** now — which has such instantaneous appeal for the teenager.

Advertising is designed to make people see themselves as having roles in the society. The economic status of the people who are expected to buy is never mentioned. It does not show individuals; it shows icons — the girl next door, the football hero, the successful salesman, the happy housewife — all icons.

**Advertising
does not foster
private thoughts
only tribal
responses**

The youngsters trooping to the altar at increasingly tender ages are all anxious to take on roles. They don't seem to be too concerned with the jobs which have traditionally been necessary to make the role-playing possible. Indeed, they may be right, for, as we move into a world of automation the jobs as such will become increasingly scarce. Marshall McLuhan has said that, in the near future, we will all be compelled to 'learn' a living; not earn it.

So, as the teenager moves into a world of tremendous involvement with little opportunity to separate himself from the activities of the tribe, he finds his whole being responding to the beat of the tribal drum as this is heard through our electronic and mechanical media. If the old mode of separation from the activities of the community, which was possible as long as the book was the primary mode of communication, no longer exists or

*Drive the all-new, vastly improved, slightly enlarged,
basically unchanged, exactly the same as last year...*

1964 PLYMIC

*The Luxury Car
With The Economy Price*

ONLY \$2134*



*POWER STEERING, POWER BRAKES, WHITEWALLS, RADIO, HEATER, DEFROSTER, SEATS, ROOF, FLOOR, FRAME, PAINT JOB, AND DELIVERY BEYOND FACTORY GATE OPTIONAL AT EXTRA COST.

is increasingly difficult to maintain, then it becomes necessary for young people to understand what is happening in their lives.

I do not attempt any value judgments. Rather, I simply point out that iconic, all-embracing participation seems to be the order of the day. That we will all dance to the tribal drum is automatic. The only hope lies in the possibility that it is we who will create the rhythms. We alone through understanding the potential in the new society can change them.

A Mad magazine look at advertising

The 'Who's covering up department' or Watch that price with the asterisk* department.

(*Mainly because a sneaky low price can become a ridiculous high price at buying time!)

from the June, 1964 issue of *Mad Magazine*

Sensational New EPOXY GLUE

10c*



*** ONLY 1 TUBE PER CUSTOMER**

"Only One Tube Per Customer" means you only get #1 tube! But it so happens that epoxy glue is useless unless mixed with hardener — which comes in #2 tube, and costs 98c.

Torquemada and 1984

J. G. Keogh
Illinois Institute
of Technology

George Orwell's novel **1984** opens in the April of that year, and closes in the spring of 1985. The second spring brings with it no hope or promise of new life however, for Winston Smith is a demolished man, totally reconciled to Big Brother. April has become a cruel month. And one wonders whether, when Orwell was deciding the time of his story, and more significantly, deciding upon a year of that time as its title, he may have had in mind some of the political and religious events in the Europe of five hundred years earlier which foreshadowed that unique invention of twentieth century technocracy, the totalitarian state.

In England, 1485 was the year of the accession of the Tudors, noted not only for their power and glory, but also for their autocratic rule, and their resort in the name of judicial equity to such novel procedures for obtaining court evidence as the torture of witnesses during examination (**inquisitio**). Or again, in light of the importance given to the machinery of propaganda in Orwell's novel, it is interesting that one of the prime means by which the Tudors centralized the government of England was their control of the printing press. One year before their dynasty came to the throne, the parliament of Richard III passed in 1484 the first legislation in England respecting printing – **An act to encourage foreign printers** – which rather than being restrictive to printers, was actually favorable to them. Finally, and most important of all, it was in 1484 that Torquemada renewed and for the first time centralized the Inquisition in Spain, largely in the cause of a strong central monarchy, and convoked a general assembly of the local inquisitors at Seville, issuing the famous Code of Directions, whose twenty-eight articles both regulated and standardized the whole business of judicial torture.

By his own admission, most of George Orwell's career after 1936 was spent in satirizing and attacking the monster of totalitarianism, which he defined in "Politics vs. Literature" (1946) as "the spy-haunted 'police state' with its endless heresy-hunts and treason trials." In a piece on censorship also written two years before the novel's publication, entitled "The Prevention of Literature" (1946), Orwell stated that "A totalitarian state is in effect a theocracy, and its ruling caste, in order to keep its position, has to be thought of as infallible." Orwell went on to say that the age of faith in the Middle Ages had produced no good prose literature; and that although some good verse may be

written “under even the most inquisitorial regime,” no one ever wrote a good book “in praise of the Inquisition.” Under a totalitarian regime, the kind of prose literature that had existed “during the past four hundred years” must come to an end. His view of history was rather naïve. The political torture and the treason trials which took place under the Tudors appeared to bother him less than the torture and the inquisitions undertaken in the name of orthodoxy by the fifteenth century Catholic Church. And he appeared to confuse this period with the true middle Ages, although Lynn White, the medieval historian, has recently arrived at a good working definition of the Renaissance by dating its intellectual turmoil by the fashion for witch-hunting which swept through Europe between 1300 and 1650.

Nonetheless, these matters in general, and their implications for creative freedom, bore heavily on Orwell’s mind. Raised in a positivist and empirically-minded milieu, he was ill-prepared to grant any creative function to the myth and ritual of religious tradition. Terms such as **heresy**, **orthodoxy**, and **torture** appear frequently in his novel **1984**, always in connection with treason and thoughtcrime. We read that “The heresy of heresies was common sense,” while the rhetoric of the Ministry of Love (which concerned itself exclusively with the torture and brainwashing of political prisoners) has a strong resemblance to that of the Church. The arch-heretic of Oceania is named, significantly, Emmanuel Goldstein – a Jew. The triple ideals of Oceania are war, conformity and ignorance, and are unalterably opposed to those variants of the ideals of the French revolution which are found in Goldstein’s book, “freedom, justice and fraternity.” But just as the ancient ideals of liberty and equality (slogans on the coins of the Roman empire) had been perverted since the Renaissance according to Goldstein, so too the modern totalitarian government systematically perverts the medieval notion of brotherhood, resulting in the regime of “Big Brother” himself.

Orwell seems to have been an earthy pragmatist who disliked sainthood, and who felt that no idea or ideal was powerful enough to warrant the repression of freedom. One would not imagine that he felt any admiration for the Dominicans, the Order of Preachers which had been originally founded to follow in the footsteps of its namesake in uprooting heresy in southern France. But Torquemada, the first Inquisitor general of Spain,

was also a Dominican friar (i.e. **frère**, brother) and, although no one seems to have noticed it, quite obviously the human original of Big Brother in Orwell's novel. Christ, the son of the Father, is of course the proper analogue, being the biggest brother of all. And by Torquemada's day, there was an official Church order of little brothers, the Franciscans (officially the Friars Minor, or **Fratres Minores**), named in contradistinction to such established major orders as the Benedictines and the Dominicans. Hence Torquemada, the repressor of heretics and Grand Inquisitor of Spain, was quite literally a **frater major**, or "big brother." It is rather surprising to discover how literal in his search for imagery the earthy pragmatist has been. (We know from another novel of his, **Keep the Aspidistra Flying**, that in the course of attacking social hypocrisy, he was capable of parodying St. Paul's famous praise of **charity**, "If I speak with the tongues of men and angels . . .," by the witty substitution of **money**. And in the context money, he quotes the famous lines of Baudelaire "**C'est l'Ennui**." One wonders what he thought of the hypocritical "brother" mentioned at the end of Baudelaire's lines.)

Thus in the novel, Winston will be made "hollow" at the Ministry of Love in order to be made worthy of the dubious infusion of grace from Big Brother, through such "priests of power" as O'Brien, in the tradition of Irish Catholicism, acknowledges himself to be. At one point he is involved in a catechetical ritual in which he asks O'Brien if Big Brother really exists, in a manner meant to recall disputes over the existence of God. Later in the appendix on Newspeak we are told that statements like **Big Brother is ungood** are "heresies of a very crude kind, a species of blasphemy." O'Brien says that although the commands of tyrants were **Thou shalt not**, and those of totalitarian governments were **Thou shalt**, only Big Brother, in remaking men in his own image, utters the absolute creative edict, **Thou art**. O'Brien, called "tormentor" and "inquisitor," reveals the central truth about the Ministry of Love.

"The first thing for you to understand is that in this place there are no martyrdoms. You have read of the religious persecutions of the past. In the Middle Ages there was the Inquisition. It was a failure. . . . Why was that? Because the Inquisition killed its enemies in the open, and killed them while they were still unrepentant."
(3:11)

Orwell is perfectly aware of the relationship of all this to the Church (although he gets his Middle Ages mixed up with the

Renaissance), for he has put the following passage in Goldstein's book:

" . . . hereditary aristocracies have always been shortlived, whereas adoptive organizations such as the Catholic Church have sometimes lasted for hundreds or thousands of years. The essence of oligarchical rule is not father-to-son inheritance, but the persistence of a certain world-view and a certain way of life. . . .

(2:IX)

In other words the Church, like Big Brother, derives its success not from paternalism, but from its almost tribal sense of family and brotherhood. (One is reminded of another famous brotherhood, the **fratellanza** of the Sicilian Mafia.) Goldstein goes on to write of the **doctrine** of the Party and its **infallibility** which makes it **omnipotent** and **orthodox**. A description of the "inquiry" and torture which goes on at the Ministry of Love leads to another important statement by Goldstein that the modern scientist is either a chemist or physicist committed to research on weapons of war, or "a mixture of psychologist and inquisitor" who is interested in drugs, mental therapy and "physical torture." Not a pleasant picture, and the terms of the imagery make it as much a satire on the medieval Church as on the modern State.

By Orwell's day, in the socialist England of 1948, the medium may have changed (from print and journalism to the B.B.C.), but the message unfortunately remained much the same. In the hands of misguided Big Brothers, modern governments used the new electric media for the old centralizing purposes, resulting in those mass bureaucracies in which every citizen sometimes feels conscripted into the Civil Service. (It is, after all, one of the senior services.) During such social upheavals, brainwashing and electric shock-treatments are only some of the means used to traumatize people; as Orwell knew from his profession of journalism, the mass media are even more effective. In fact, his own appendix on Newspeak seems to be aimed at American news-weeklies such as **Newsweek** and **Time**, and their propensity for coining phrases **portmanteaux**. And given his chosen profession, it is probably no coincidence that his adopted pen-name of "George Orwell" echoes the names of Herbert George Wells and George Orson Welles. (In **The Writer and the Absolute**, Wyndham Lewis wrote that **1984** is Wellsian in form, Wellsian in style, and "Wellsian in the colorlessness and anonymity of the personae.")* The horror of torture and the inquisition seems to be an established part of politics today. But far from being used to preserve the

old ways, whether of Medieval religion or of Renaissance politics, physical torture and mental anxiety seem more often than not to be the **effects** of culture shock resulting from new technology. (It is curious the extent to which technology generates new modes of torture as well as weapons — e.g. the rack and the wheel at the beginning of the mechanical age, while the punishment of the courts — hanging, decapitation, whipping — tends to remain conservative in the extreme.) Orwell saw the new media mainly in terms of their threat to individual freedom and creativity, and it remains somewhat ironic that he failed to see creativity as perhaps our greatest threat. In **1984** he foresaw the effects of television only as an extension of the external controls imposed by print on a literate society. Although himself a journalist and former staff man with the B.B.C., he saw radio and television only as a more intensified form existing in the same continuum as the newspaper, and one which aided and abetted the forces of repression. Mr. Agnew might not think so. Orwell's **1984** remains, however, a great landmark of utopian satire in the tradition of Wells, an ironic celebration of half a millennium of centralized autocracy, and an anniversary for the nation state, the total state and the super-state of the twentieth century.

*Wells died in 1947, one year before the publication of Orwell's novel. Perhaps Orwell felt that decency at last permitted him to imitate the works of the master.

William Saroyan writes me from Paris: "I seem to have the notion that anything anybody writes has got to be published — so that the writer can begin to feel better, I suppose. It isn't that a new writer, aged seventy, can't write; it's just that if he hasn't already done so, it isn't very likely."

I replied: "Your idea that anyone who writes ought to be published is going to come true. Xerography is a process that can, in due course, make this possible and at the same time make us change our concept of literary property. Everything will be published and it will all belong to everybody — power to the people. There's nothing wrong with the idea. If everyone finds a publisher, he will of course find a reader, maybe just one reader, the publisher. Writers want lots of readers, but this desire will be less and less fulfilled as there are more and more writers. Eventually every man will become at once a writer, publisher, librarian, and critic — the professions will disappear as every man assumes the literary roles."

To which Saroyan, still in Paris and still writing as a professional, replied: "Yes, xerography will make the confoundation of human life so total as to be cancelled out, and a new day will dawn or a new race will be spawned — we are fish, aren't we? Great publishing, the publishing of the best writers — how far is that, as a matter of fact, from the other? Can we really pretend that the distance is worth measuring?"

What underlies this brief exchange is a twofold question: What is writing worth as a property and as a human act? We have presumed for more than two centuries that writing is a kind of property that is contracted and transacted in such a way that unauthorized copying or other transmission can be made illegal. Writing as property is the basis of copyright law in most Western countries; yet in their midst there persists the criticism that copyright is a monopolistic practice that deprives "the people." Some Communist countries ignore copyright, or they waffle; and the "emerging nations" ask special dispensation in order to catch up with the West, that is, to copy the works of the West, literally and figuratively. As for the second part of the question, these times compel one to ask: Is the artifact resulting from writing — the book, the article, the journal, the script — as important as the plain sheer process of writing? One can argue that writing is ultimately more useful to individuals as a verb

than as a noun, as an act than as a product.

It may be that after all these years – the centuries of scratching on cave walls, scribbling on clay tablets, marking papyrus and animal hides, moving paper over metal – we have got quite wrong the matter of **counting**. We assume that if many people (either in concurrence or, better, in sequence over several generations) read a literary work, then the work becomes important or at least notable. This assumption may be converse to our best ends. Perhaps many people should write – the more the better. Perhaps less attention should be given to the popularity, or the endurance, of single works. Western society dotes on two notions: the belief that individual art is the highest form of culture, and faith in the benefit of mass education and universal literacy. These notions can be contradictory, for the youth of each generation is taught the models of dead or dying generations.

As a publisher and writer, I am concerned to protect writing as a property or, more broadly, information as a property. Xerography is a threat to property because it enables people to reproduce a work without recompensing either its author (or performer) or publisher (or producer). Xeroxing, like other kinds of mechanical-electrical-chemical copying, may be the jukebox of the 1970's. In 1909, when the present United States copyright bill was passed, the jukebox had not yet been invented; hence, its capabilities were not guarded against by the law. For sixty years or so, jukeboxes have been reproducing the works of composers and singers and musicians without paying them anything. Copyright creates monopoly, dread word that it is. A writer as artisan creates a literary work, a publisher as entrepreneur produces it in a readily accessible form; both are protected by a law that declares the work to be unique and that penalizes infringement of it.

Writers tend not to talk about their property in public, because property is considered by some radicals to be an uncivil concept. Indeed, property as a concept, though not necessarily as a thing, is regarded suspiciously by the Young (as a class), by the separatist Blacks, and by the Intellectuals who are able to subsist outside universities, foundations, and government. These are the people who for the most part do not own much property. This statement is not cynical, but notational, for it is a warrant

of the sincerity of these radicalist people that they believe in freeing themselves of possessions so as to become mobile and thereby communicative to the process of acting, of becoming, of being. The outsiders in our society are less interested in the artifact, in the object, than in the media. Mark Slade, who has been Education Director at the National Film Board in Canada, defines this phenomenon by the use of historical analogy: "At about the time that Faraday and others were asking questions which were to shake the old pillars of knowledge, Edgar Allan Poe was saying that it is an obvious rule of art that effects should be made to spring as directly as possible from their causes. Walt Whitman said the poet is the channel of thoughts and things without increase or diminution. Baudelaire, meanwhile, wanted to create a magic which would simultaneously contain object and subject, the exterior world and the world of the artist. ... Schönberg, too, strove to make music a more immediate experience by expelling all literary and romantic content. Jaspers was one of the first to see that philosophy has no content; for him philosophizing, not philosophy, was what mattered. ..."

If one grants validity to the idea of the flux of being – of doing one's thing in such a way that product and medium are not separable, maybe not even discretely identifiable – then it is easier to accept the proposal that writing should not only be practiced by everybody but also belong to everybody. As Saroyan suggests, anything anybody writes ought perhaps to be published. But why **published**? Why, indeed, does not everybody describe his thoughts or dreams or trips and be content to put the writing away, himself fulfilled by the therapeutic act of putting one word after (or before) another? The answer is that writing words seems to be different from writing musical notes, different from theatrical performance, different from the plastic arts. One accepts the **reality**, which is to say, the substance and the effect, of these art forms without requiring them to be at once fixed and accessible; yet fixity and accessibility are the very qualities we demand of worthwhile writing. One buys recordings and prints without questioning that the original creations exist or existed elsewhere or were once performed somewhere. Not so with writing, which as an act in itself is common to a billion literate people, so common, in fact, that it is generally not valued until it becomes available in a secondhand,

reproducible form.

Writing manages to become a property, I think, not mainly because a law declares it to be so. If it is unpublished, it is regarded, as a product, to be merely ephemeral, or eccentric, or documentary. Once published, writing gains value; indeed, it is one of the few crafts (or arts, or techniques) for which the reproduction is usually more valuable than the original. Most manuscripts or typescripts are worthless; most books are worth something. Generally, no manuscript is priced as high on the auction block as a copy of the first edition of its printed reproduction. Consider further that in China there is no copyright, but the sayings of Mao are better protected than are his fellows and followers. In the Soviet Union there is no royalty system based on the **purchase** of books, yet writers are recompensed on the basis of the **printings** of their books by government presses. Thus is control maintained over distribution; and nothing so endangers a Russian writer as the unauthorized (underground) reproduction of his work. In Britain, Canada, and the United States, print has achieved an aspect of legality that has no basis in English common law – so much so that it is difficult to convince a layman that his oral pledge to another person is a contract just as binding as a written agreement. Finally, the misascription of a profound or elegant statement is still morally embarrassing. Publishers and teachers, compliant to the Kennedy mythmakers, keep on countenancing the quoting of George Bernard Shaw's statement on "I dream ... and ask why not" as being Robert Kennedy's own.

Shaw was dead before xerography became universal, but I doubt that he would be dismayed by it as a threat either to maintaining the identity of an author or to vouchsafing his income. Let me repeat (from my own writings) the parable he told about Tolstoy. Once, one of my colleagues wrote Shaw asking for permission to reprint **Arms and the Man** and, on being refused, he wrote again to suggest that an American publisher could, if he wished, print the play without permission, for by then the legal limit of copyright had run out. Shaw was now piqued into relating, by way of reply, the story of Count Leo Tolstoy, who, in the last years of his life at Yasnaya Polyana when he sought to put away worldly things and lead the simple life, gave away the copyrights to his works and allowed them

to be published free of royalties. The sale of Tolstoy's works fell immediately, said Shaw, drawing the lesson that the public does not value what is given away.

On the other hand, parables are no safer than aphorisms, and some are pointless and unprovable. The history of copyright would **seem** to support the idea of value being dependent upon price, upon demand controlling supply. The first law governing copyright in England was enacted in 1710, a date that Dr. W. J. Howard (in a doctoral thesis submitted to the University of Leeds in 1965) finds distinctly related to two phenomena: the acceptance of Locke's philosophy of property and law, and the exceptional profitability of printing and publishing during the early eighteenth century. Locke believed the function of government to be primarily that of protecting property; for him the law was corrective and punitive. "Nowhere," says Howard, "is there the slightest hint that the function of law can be directive and educational." Given a Lockean thesis, it was sensible to create copyright laws. "The recognition of property rights as a source of wealth led to a formation of certain laws governing them; these in turn strongly influenced the printing Trade, because publications were physical things which had a commercial value."

We cannot today, two hundred and sixty years after Queen Anne's copyright law, assess the degree to which literature and entrepreneurship became interdependent, or, more accurately, literature and protectionism. More than a hundred years ago Charles Dickens came to the United States to claim his royalties from the publishers who competed freely in stealing his works. He found that his popularity was immense; every American wanted to shake his hand, just as if he were the President. Indeed, we may never be able to measure the effect of xerography (or other methods of copying) on the creative life of modern writers or on modern criticism, which rates and ranks writers. To the point, there is the dramatic instance of CATV, which is the transmission of television signals by cable directly into houses. A few years ago, the owners of CATV licenses (franchises for defined localities) were quite prepared to negotiate to pay producers and artists for the CATV rebroadcasting of movies and network-television programs. Unexpectedly, a federal court ruled that under the present copyright law

and broadcasting statutes CATV can rebroadcast programs without permission or payment. Does this foretell the end of commercial broadcasting? Not necessarily. For if the national commercial networks lose a large part of their audience (and therefore their advertising revenues), they will go out of business and thereby force the CATV owners to create their own programming, which they can only do by paying writers, musicians, actors, producers, and by buying rights to films and books.

This tale is told to remind us that no work, or message, is exactly transferable from one medium to another. Even cable television is a different medium from open-air television, just as videotape is intrinsically different from "live" broadcasting. By now it must be clear to the readers of books, at least, that Marshall McLuhan has proved that the different media create their own meanings and consequently convey their own messages. Each medium creates new conditions for the artist and the public, which themselves are not separate entities. The artist creates "the public," which can only be defined in relation to what it seeks or consumes. And the artist is ultimately directed by the process of the medium he uses and that uses him.

I began with William Saroyan and now shall close with him. One ordinary day he and I were walking down Fifth Avenue, gesticulating, arguing, like Levantines. I was urging him to write a long novel. A long novel was the style of the time; three-hundred- and four-hundred-page novels were on the best-seller lists, but no short novels of the kind that Saroyan favors. He pointed to the sidewalk crowds, to the street filled by herds of buses and cars, and replied, "I know, you want all of this in a novel, the whole of life. Everybody wants it, and nobody can write it." Reflecting on that day, I now wonder. What if everyone did actually write his story, and what if everyone's story were Xeroxed? Imagine millions and millions of Norman Mailers, each making himself the center of existence and relating his feelings as the only trustworthy view of the world's ways. Imagine it! What would all that writing, the whole of it, amount to? It might be life. It might be what no artist can conceive, bigger than the biggest visions of poets and madmen. That's it. That's what The Universal Xerox Life Compiler Machine could do for us, something "now" and "total," so to speak.

But on further reflection, I think not. The Universal Xerox Life

Compiler Machine could produce an endless, madding gibberish. One should know this from reading Oscar Wilde, who was not merely clever, but right. Life imitates art. Nobody has a "story" until he starts to tell it – the medium and the content are inseparable, like ends and means. Life cannot be comprehended within its immediate terms. So it is that I am sure that the widespread use of xerography will not devalue literature, nor will it confuse the identity of reader and writer, nor will it turn to antiquarianism the profession of publishing. It will not do these things because the act of copying is indiscriminate, unselective, uncompetitive. It is not a medium of art.

**Organized
Ignorance**

My poems — I should suppose everybody's poems — are set to trip the reader head foremost into the boundless. Ever since infancy I have had the habit of leaving my blocks, carts, chairs, and such like ordinaries where people would be pretty sure to fall forward over them in the dark. Forward, you understand, **and** in the dark.

(Robert Frost)

One of the breakthroughs of World War II was Operations Research which began as "brain-storming" and soon dried up as **expertise**. The play element was professionalized. At first, however, the ground rule was to "clear out the experts." These men always vetoed a suggestion on any subject, since they knew "it couldn't be done." They were unaware of the great "metaphysical" insight of Coleridge that the entrée to anyone's knowledge was through the back door of his ignorance. Since then, we have learned that it is the refuse heap of discarded theses and unsolved problems that is the greatest resource available to man. The expert doesn't know the right questions so he rejects the right answers. Hence the need for a playful and spontaneous approach to real problems.

**Dislocating
the mind into
Perception**

All people have "mental sets" or habits of perception that conceal the real game from their eyes. "Serendipity" is now a popular word for the game of random by-passing of ingrained habits and concepts. The word was coined by Horace Walpole in 1754. He explains that: "He had formed it upon the title of the fairytale **The Three Princes of Serendip**, the heroes of which were always making discoveries, by accidents and sagacity, of things they were not in quest of."

Most discoveries are unexpected by-products of activities quite unconnected to them. Every artist makes breakthroughs as soon as he meets a difficulty. Today the need for problem-solving is so great that techniques for this purpose have had to be developed. One of these techniques has recently appeared in the **Dew Line** card check. The cards can be dealt out to any group. The mélange of wacky aphorisms puts any

group or committee into a relaxed and confident posture. If the members are then invited to relate the aphorisms to their top problems, new answers appear from every direction. Earnest statisticians will enjoy: "Thanks for the mammaries", and social scientists will be grateful to know that "since the invention of elastic the space occupied by women has been reduced by one third." These may suddenly illuminate the hidden relation between hi-rise and mini-skirts. The textile manufacturer may suddenly see how to let the hemline go and swing out on a major encirclement.

Brainstorming, which looks wildly chaotic to the analytic mind, is in fact, the only way of swarming all over a complex situation. It is an intuitive, all-at-once method of intellectual grasp. Playfulness and creativity and invention are inseparable. Even before these playful approaches, "Value Engineering" had been the name used by General Electric for techniques of meeting new competition in hardware products. The "cheaper mouse trap" had to be conjured up in a form requiring less material and labor.

The Challenge to Spring the Rivals' Trap

Gradually the uptight managers of the most responsible business operations conceded the necessity of sinking into the most undignified forms of mental horseplay in order to cope with their need for innovation.

Invention is Found in Acoustic not in Visual Configurations

The Penman and the Punman

Discoveries issue from "the resonant interval" of quantum mechanics rather than the visual connection of rational systems. Many people of professional demeanor "shun the punman", having been warned that verbal play is the lowest form of wit. These people have to bite their lips a good deal in order to repress their enjoyment of the most natural feature of all language, namely its inexhaustible richness of incompatible meanings.

James Joyce knew that any word was a storehouse of innumerable human perceptions that could be released by abrasive interplay with other words. Given any two words he could invent a universe. The following fugue or dance of tones and gestures, if read aloud, provides a dramatic account of organized ignorance.

"... In the ignorance that implies impression that knits knowledge that finds the nameform that whets the wits that convey contacts that sweeten sensation that drives desire that adheres to attachment that dogs death that bitches birth that entails the ensuance of existentiality."

(p. 18, *Finnegans Wake*)

Starting with the gap of ignorance that generates many-layered perception, Joyce moves to the interweaving of new patterns of knowledge. The "nameform" must be the exact word or formula for a specific effect. His repeated use of **that** is demonstrative stress, not mere linking. The **exact** name whets or sharpens the wits or senses, and sets up new contacts or echoing intervals that enrich sensation. The inventor is the man abounding in sensational vigor and fresh energies derived from sharp contacts. He is ruthless in his quest and his pertinacity as he reaches for his natural prey. He is like the unleashed retriever pursuing to the death, or the bitch in heat who will replace the lost generation and ensure the continuity of the living and the existent.

An Uncommon Fellowship. The Story of Hart House by Ian Montagnes (University of Toronto Press 1968, 203 pp., \$9.50) is a richly satisfying document for those who know the University, and an important addition to its history for those who don't. The author has skilfully blended his own love and labour with the words of Burgon Bickersteth, the second Warden, who put his memories on tape during long sessions at Canterbury. This is more than a story: it's a stirring testimonial to enlightened thinking by the Massey Family who designed and built Hart House as a gift to the University. The following excerpts are reprinted with permission.

How youth won the day for Hart House Collection

IAN MONTAGNES

BURGON BICKERSTETH brought to Hart House tremendous energy packed into a wiry short frame, and an infectious enthusiasm which carried everything before it. He believed (or just as important, appeared to believe) that the House was the most exciting institution, not just in the university or the city, but in all of Canada; and he communicated that belief to his staff, the members of the House, and the hundreds of visitors who came at his invitation or at their own request. Nothing was too good for the House, and nothing second-rate was to be sanctioned. He was not an expert but he had a keen appreciation for paintings, music, books, the nuances of debating and the enjoyment of physical exercise, and he was always eager to learn. His standards were high and these, along with his broad interests, he sought

continuously to instil in the House by personal example, and through its formal activity. He was not primarily an administrator. He recognized priorities — the finances were unorganized when he arrived in 1921 and one of his first moves was to placate the auditor by hiring a competent accountant — but after 1923 he left the details of planning and operation to Roy Gilley and, later, Rae Cowan. He was an educator: and if the lecture halls of Alberta had failed to inspire him, he worked a certain magic in the common rooms of Hart House.

There were about 3,800 men at the university when he took over. Many still came from the farms and small towns of Ontario and the Canadian west; a growing number came from the crowded district of Toronto known as The Ward where immigrants (in those days mostly Jews

from central Europe, intermingled with Irish and Italians) traditionally have settled first. Not a few of them came from homes which owned a Bible and little else in the way of literature. If they knew any Canadian painting it was apt to be Paul Peel's saccharine *After the Bath*; but more often their acquaintance with art was limited to muddy canvases of European derivation, and the sepia-tinted reproductions of the classics which hung apathetically in schoolrooms. Only the occasional student walked the few blocks from the campus to the modern Art Gallery of Toronto. In many cases, again, music meant no more than family or amateur, or at best semi-professional, entertainment. The radio and phonograph were only just beginning to carry first-class performances into every house. It was true that Toscanini and Caruso visited Toronto, that there were two or three concerts or recitals every week during the season, that the city called itself the "choral capital of North America" by virtue of the Mendelssohn Choir and other groups: these performances were beyond the purse of the average student. If he heard professional musicians, it was likely to be at the silent movies where most of them played to make a living.

Bickersteth built slowly and with care, involving the committees, interesting his acquaintances, seizing opportunities as they came. He found a group of young men gathering for informal, rather ragged sing-songs; and with the help of Campbell Mc-

Innes he transformed these sessions into distinctive evenings of folk music. Through Barker Fairley he introduced the House to the work of the Group of Seven; the members responded by buying, with expert advice but with their own funds and at their own decision, two or three paintings a year until the common rooms were hung with one of the finest private collections of Canadian art from that period. As the library holdings expanded he encouraged the committee to branch out and collect the work of William Morris and other private printers, for the enjoyment of good typography and book-making. He found Toronto debating on the American system, in teams with carefully prepared arguments based on fact; and when the campus was ready he introduced debate along parliamentary lines, in which wit counted as much as logic and every member could participate. These were only a few of the lines he helped develop. After his initial hesitation, Bickerssteth remained as warden for 26 years. He was the third great architect of Hart House. If Vincent Massey conceived the idea and Henry Sproatt the fabric, it was Burgon Bickersteth more than anyone else who fashioned the character of its life.

But no matter how successful the organization and program of the House might be (and for the most part they were remarkably successful), Bickersteth's greater interest always was the informal life: the hours of conversation and friendly disputa-



"Isles of Spruce" (Arthur Lismer) a prized painting in the Hart House Collection, appeared on a Canadian six-cent stamp last year. Allan Fleming, left, chief designer, U of T Press, and a member of the Canadian Postage Stamp Advisory Committee, suggested the subject and then designed the stamp.

tion. He loved talking with young men. He talked with them in committees; in the halls and common rooms; at meals in the Great Hall; in their own colleges and faculty buildings — and in his rooms. Sometimes there would be a guest, a young don, or a politician, an artist, or a clergyman. More often there would be only members of the House, perhaps eight or ten men gathered in front of a blazing fire in his comfortable sitting room on the third floor, smoking and talking until the small hours. "Bicky was a tremendous civilizing influence", recalled one of them, now a lawyer and officer of a trust company. "You went up and there was cocoa or coffee with whipped cream in cups of real china, and food. It might be

cookies, or cake left from the kitchen, but it came on a silver salver and it tasted like nectar, and you were treated as if you were the greatest visiting dignitary. And then Bicky would talk of books or art or of the history of London, or of his own student days in Oxford or Paris, or his experiences in the west, to boys who had likely never been outside Ontario in their lives, and who until that moment might never have thought of it."

The conversation was rarely one-sided. The undergraduates kept up their part. Today thousands of men around the world carry memories of such gatherings. And it was about those evenings that Burgon Bickers-teth spoke most often one summer

when we talked in Canterbury about Hart House.

At this point Burgon Bickersteth takes up the story. These are his words, taped by the author:

Hart House was a natural picture gallery of the first order. Plain, light coloured walls, good lighting by day, a succession of well-proportioned rooms to set off the paintings. There was a real possibility of making pictures part of the general equipment of the building – not a usual idea then, though now it is a commonplace. Soon after I arrived in Toronto I had several long talks about it with Barker Fairley. I had known Fairley when he was a student at Leeds. By this time he was an associate professor of German, and well known as a fanatical admirer of the Group of Seven. He was desperately keen about developing art activities in Hart House: he had been one of the two or three staff members who had arranged in previous years to borrow paintings from various Toronto artists to hang in the common rooms. So we talked about buying paintings to make proper use of this natural gallery, and to encourage Canadian art.

The first thing was to reorganize the sketch club to encompass this activity. That doesn't sound very important, but one of the basic principles of Hart House was that there should be no accommodation for exclusive clubs. Every member of the House had a right to go into every room, and within reason to be pres-

ent at every meeting. Besides, we wanted to involve as many men as possible in what we were doing in art. It seemed obvious that the old sketch club had better be converted into a committee of Hart House, with Barker Fairley as first chairman, and this was done. The other senior member was C. W. Jefferys. The committee continued the old activities. It arranged a rather limited series of exhibitions in the sketch room that first year, and some informal art classes under Jefferys and Fred Brigden and other artists.

We also bought the House's first painting, A. Y. Jackson's *Georgian Bay, November*. It was a canvas very typical of the Group of Seven, all rocks and water, very Canadian. No doubt in those days it was considered very revolutionary. But not now.

(At this point, the author's own words come off the tape:

(Dr. George Walton was secretary of the committee at the time. He wrote me the other day and described the visit you and Fairley and the undergraduate committee members made to the Art Gallery of Toronto to choose that painting. Here's what he said:

("Fairley of course had already made his choice and was way ahead of us, walking like blazes, with his walking stick puncturing the skin of the earth every twenty feet. J.B.B. said, 'Listen, you lads. Fairley is the only one of us who knows a thing about paintings. We must be guided by him. He should really make the

selection, but let's make him sweat for it.' We agreed.

("When we arrived at the Gallery, Fairley led us directly to a lovely thing by A. Y. Jackson. We viewed it with derision and contempt. J.B.B. then led the group to something which looked like a spilled pot of jam, and we went into raptures over it. Fairley pleaded with us, swore and almost wept, then, one by one we let ourselves be persuaded that his choice might have some merit. Then, one by one, we agreed that for once we would be guided by him. He marched back in triumph.")

I can't say I remember that [*Burton Bickersteth commented*]. It's possible.

What is important is that this was the beginning of a slow but steady process of building. The committee usually bought only two paintings in a year, and never I think more than four or five, but gradually the walls became filled with our own canvases. And what was *most* important, the choice was made by the committee. They had advice, to be certain, but in the end the selection of what painting would be bought at any particular time was left to a group of young men, changing every year, relatively uneducated when they joined the committee, and having at their disposal only limited funds which were provided for the most part by other young members of the House. They did very well too. They bought paintings by Arthur Lismer and Fred Varley, Lawren Harris, J. E. H. Mac-

Donald — all the Group of Seven, and one of Emily Carr's pictures of totem poles, as well as work by younger artists like Charles Comfort.

We were buying very much against popular taste in those early years. The Canadian art world was still split into two warring factions — the modernists, headed by the Group of Seven, and the more orthodox painters. We had to make very certain that both sides were represented on the small committee of artists which was asked each year to advise the sketch committee on its purchases. We did in fact buy pictures from some of the more conservative artists such as Fred Brigden and H. S. Palmer, both of whom served at one time or another on the advisory committee. There was considerable opposition to many of our purchases. And while this should not be emphasized, a great deal of it came from members of the faculty and graduates who subjected us to the most difficult kind of opposition to tolerate, which is ridicule. I would sometimes come across senior members taking their friends round the House and poking fun at the pictures, indeed apologizing for them! This went on for many years. I don't deny that there was often severe criticism among the undergraduates, especially from Engineering (but never among the Meds) and from *The Varsity* also, but in general youth proved more tolerant than age.

We had two major principles in our annual purchases. The first was

that the paintings should be Canadian. The other was that they should be, as far as possible, the best Canadian pictures of the year. We depended a great deal upon the advisory committee, which made a preliminary selection from the paintings available; sometimes they recommended only two, and I would have to explain to the sketch committee that it would have little choice that year. The men were always sensible to that situation and accepted it. We also depended a great deal upon the interest and enthusiasm of the individual artists. When they realized that Hart House was forming an important collection of Canadian pictures, they were prepared to let us have their work at a much lower price than they would otherwise demand. In other words, the higher the standard of the collection was known to be, the easier it was to procure first-rate pictures at a reasonable price. Lismer sold us *Isles of Spruce* for \$300. It's one of the outstanding productions of the Group of Seven, worth many thousands today. We never tried to beat down the artist with regard to price. It's just that when they saw what we were trying to do they were ready to let their pictures go for what we could afford. Many of them went considerably further. They gave advice; they helped us arrange exhibitions; they gave talks in the gallery; they conducted art classes. Lismer even painted the decorations for the New Year's Eve Ball.

THE NEW ACTIVISTS

(Continued from page 16)

ceptives. Financially, the companies stand to gain immensely from the increased use of oral contraceptives but they have been apparently reluctant to do so because of fear of offending a public which is still wary of the whole subject of sex and birth control.

Another difficulty facing the Z.P.G. is the hostility toward abortions. While legal abortions are possible in Canada, they must first be approved by a special panel of three doctors. Women asking for abortions have been finding, however, that the doctors, tending to be conservative, prefer that they have their children and so turn down their requests. Z.P.G. points out that while wealthy women can afford to travel overseas or to New York state for an abortion-on-demand, poorer women in Canada are forced to have an unwanted child who may be a frustrating emotional and financial burden on a struggling family. Like Pollution Probe, the Z.P.G. is trying to influence legislators to pass laws amenable to their points of view.

Z.P.G. members hold that myths surrounding the family must go before people will *want* to limit their families. For example, a recent magazine advertisement showed an attractive couple walking through ocean surf with four young children. The scene was idyllic, the beach free of the usual crowds. The ad was successful (if somewhat unrealistic) because



it played on the cultural preference for large families. When we see a healthy large family, we admire, don't condemn, the number of children. But if couples continue to have so many children, there'll be precious little room on the beach for any of their offspring when they grow up.

Many people protest that the world can provide an endless variety of resources to provide for the growing population. Ecologists for the most part deny this. Countries with runaway populations like India and El Salvador may well have to starve because there'll be only so much food to go around.

It's not that Z.P.G. people don't like babies. What they object to is the number of them. Most Z.P.G. members would agree with the Woman's

Liberation Movement that the myth of motherhood is dangerous because it turns women into baby machines.

Stop Spadina, Save Our City

"In an age of software Metro planners treat people like hardware — they haven't the faintest interest in the values of neighbourhood or community. Their failure to learn from the mistakes of American cities will be ours too." — Marshall McLuhan, in *The Bad Trip: The Untold Story of the Spadina Expressway*

Over the past few years on campus there has been seemingly endless feuding among the students and faculty and administration. But there is one issue that has united almost everyone and that is opposition to the construction of the Spadina Expressway, which, if completed, will deposit thousands of vehicles every hour into the streets in and around the University of Toronto.

Some of the effects of the expressway predicted by its opponents are:

- the congestion of downtown traffic in and out of the expressway.
- the destruction of the Spadina Avenue garment district at an estimated total loss of one billion dollars.
- the loss of property values and depopulation of residential areas.
- the destruction of parks and ravines to provide a cheap right of way (one ravine has already been gutted below St. Clair and is now a defoliated mud flat).
- the inestimable deleterious effects on the health and welfare of those

living near the expressway in terms of sound and air pollution.

— the dissection of the University of Toronto campus.

And yet, using the figures of Metro's own Planning Board, David and Nadine Nowlan, authors of the highly critical *The Bad Trip: The Untold Story of the Spadina Expressway*, predict that the expressway will be utilized by only 7,000 people in rush hours and these will save an average of only 12 minutes every day over the regular road system. In terms of total construction and maintenance costs, this means that every one-way rush-hour trip will cost \$4.76. This cost will be absorbed not by the 7,000 alone but by every tax payer in Ontario. This cost does not include the loss in property values, damage to health, or business losses.

The Stop Spadina Save Our City Co-ordinating Committee (SSSOCCC) was formed rather late in the development of the expressway only when people in the proposed path of the highway began to realize the full implications of its construction. SSSOCCC managed to form a nucleus for various ratepayer and busi-

ness groups that wanted to present briefs before the Metro committees responsible for the construction. SSSOCCC now has a membership of 300 but is in constant need of money. Paul Reinhardt, a co-ordinator for SSSOCCC, admits there is no constant source of funding. Saul Alinsky, the famous American community organizer, has warned SSSOCCC that it must find a base in organizations that have other interests beside their opposition to the expressway. Efforts are underway by David Stager, a U of T economics professor, to incorporate an organization called Spadina Review that would structurally unite all groups opposed to the expressway and provide funds. SSSOCCC would continue as a propaganda and information service.

For the members of SSSOCCC it is absolutely vital to stop the Spadina project because it represents only one of a series of highways that will criss-cross established residential and business areas in the city's core. Paul Reinhardt believes that, if this network is allowed, the downtown will be abandoned by the more affluent citizens and many of the businesses.

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The net result, he believes, will be a miserable patchwork of ghettos and marginal businesses. He points to American cities to illustrate what could happen here.

A major obstacle facing SSSOCCC is the inability of the bureaucrats ever to admit they may be wrong. There is also the complication that \$67 million already has been spent on the project and many politicians would rather see it finished (at a total cost of \$200-250 million) than abandon it. Nevertheless, SSSOCCC is encouraged by the work of citizens' groups in New York and San Francisco that have managed to successfully block further

construction of new expressways. In New York, for example, the Lower Manhattan Expressway was called off by Mayor Lindsay when a report was published that predicted that carbon monoxide from the highway would be "sufficient to cause physical collapse" and to "seriously impair the health of people living and working in the neighbourhood."

At the end of my interview with David Stager he said, "Toronto is one of the last major cities in North America that hasn't been ruined by expressways. We have a chance now to make it a place that people can enjoy. Let's not ruin that chance."

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PHARAND BEESLEY GIBSON MACDONALD OLMSTEAD

Canada's claim of sovereignty in Arctic waters led to disagreement among this group of legal experts whose discussion was sponsored by the Faculty of Law and the International Law Association Toronto branch. But on one point there was unanimity: there must be insistence on preservation of the environment simultaneously with economic exploitation. The panellists were Professor Donat Pharand, University of Ottawa; Alan Beesley, legal division head, Department of External Affairs; Professor Dale Gibson, University of Manitoba; Professor R. St. J. Macdonald, Dean of Law at University of Toronto (chairman); and Cecil J. Olmstead, New York, a vice-president of Texaco Inc.

Eskimo lab is an island

(Continued from page 46)

Canadian Mounted Police since 1947. In the 21-year period, 214 deaths had been recorded. The cause of 95 deaths was unknown. Of the remainder, 56 resulted from influenza, 27 from pneumonia, and seven from tuberculosis — all respiratory diseases. Only six Eskimos died from heart disease, and six in fatal accidents.

Studies of Eskimo psychology and behaviour are being directed for the

most part to school children, to determine, for example, their degree of manual dexterity. The research in these areas may be helpful in ascertaining the reason for the undoubted mechanical skill that Eskimos show in handling the white men's complicated machines.

Demographic studies are establishing a history of the people, compiling vital statistics, and building genealogies. Linguists are studying the dia-

lectic differences in the Eskimo tongues and seeking to outline linguistic boundaries. Social anthropologists are examining the structure of Eskimo society, the extent to which and the way native families differ, the migration of Eskimos within the North, the extent to which they meet and marry other Eskimos, and, finally, the impact upon the natives of the white men and women they meet while the surveys are being conducted.

During 1969-70, Professor Milne's nutrition studies were concentrated on food patterns and food intake. As Dr. Hughes explained, "total and seasonal input of energy and nutrients used for food and the sources of this input" were examined. The quantity and the quality of food, from game

and from stores, were defined, as well as its distribution "in relation to habitual activities within the community." This required the continuing integration of Dr. Foote's ecologists with Miss Milne's nutritionists, and, where the nutritional habits related to growth, with Professor de Pena's group and Dr. Hilde's medical group.

In Arctic life, one or more elements greatly affects one or more other elements. Dr. Hughes explained: "The time, effort and energy used by hunters to obtain skins for sale is the basis for the quantity of store food purchased, capital and fuel purchases, as well as the maintenance of vehicles. The effort to obtain store foods and capital goods will be compared with that for animal foods. The

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value of external welfare infusion (as family allowances) tends to reduce the effort to obtain native foods or skins by a fixed amount. It is expected that the ecology and nutrition groups will be able to account for these variables and to equate the economic and energetic aspects of the population."

Dr. Hughes described the effect of changing methods of hunting, such as the increasing use of snowmobiles, on the hunt itself and the number of animals obtained as "a basic question in the ecology of Eskimos." The growing use of motor-driven snow vehicles, he said, "may reduce the effort (and energy expended) in capture but may increase the input of animals required to offset the cost of operation of vehicles. This, coupled with the increase in population size, may increase the cropping of native foods to a level exceeding their availability, which would require a shift to greater purchase of store foods and increase reliance on wage earning. Our integrated program should elucidate these trends."

The layman's theory that Eskimos have a built-in tolerance to bitter cold

that the white man lacks is being given a thorough check. Says Dr. Hughes: "The most important ecological factor of an Arctic environment is the cold climate. The Eskimos have learned to dress themselves very effectively and are probably seldom exposed to temperatures conducive to shivering and extreme discomfort. It is probably for this reason that the metabolic responses of the Eskimos are not different from those of white population when both groups are exposed to a standard cold environment, i.e. 16 degrees Centigrade for two hours without clothing.

"However, in the Arctic, the extremities and the face are often exposed to varying degrees of cooling as it is impractical or impossible to protect them completely. It seems important then to look for evidence of tolerance of cold of Eskimos in the extremities rather than in the response of the whole body."

The results of all the studies done so far must be regarded as preliminary, the Project directors warn. They do indicate, however, that the Igloolik Eskimos generally are in good health. Tuberculosis was not as sig-

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nificant a threat to the health of the people as had been feared and no gross malnutrition was found. In 1961 the percentage of the population under the age of 16 was 34, and in 1968 it was 56. Nine years ago 80 per cent of the Eskimos lived in camps away from Igloolik during the six to eight weeks of summer. In 1968 only half the population left the village for the summer, which appears to indicate the attraction to the Eskimo of the prefabricated permanent houses made available to them by the federal government.

Data to date seem to confirm previous studies which describe a typical Eskimo as stocky and muscular. Four women in Igloolik were reported as being "obese", but this was attributed to biochemical disorders. An optical examination revealed that several hunters had sufficiently serious eye defects that they required glasses.

The entire Human Adaptability Project is a working example of inter-university and inter-disciplinary co-operation. Twenty men and women from four Canadian universities — Toronto, McGill, Manitoba and Alberta — are involved. The services of specialists from the University of Chicago have been enlisted when they have been needed. Officers and experts from appropriate government offices, particularly the Department of Indian Affairs and Northern Development and the Department of National Health and Welfare, have given major assistance to the project.

The program has not been without its problems. In the initial stages, the

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researchers made use of existing buildings at Igloolik, such as space in houses, the school, and the nursing station. It was makeshift, but it served the purpose at the time. Arrangements were made early in 1969 for the shipment to Igloolik by ship during the summer of five trailer units. These when bolted together, would provide research laboratory cubicles, sleeping accommodation for 16 persons, living area, bathrooms, and kitchen, which Dr. Hughes said, would "permit intensive inter-disciplinary studies to be carried out at one time." The buildings were set up on the site and were awaiting the installation of equipment. Then disaster struck — there was a fire that could not be controlled, and the huts burned to the ground before any use had been made of them. Not until the

next summer could they be replaced.

The Project is being financed by the National Research Council, with contributions for specific work from the Canada Council, and help from the University of Toronto and the University of Manitoba. Funds are administered by the U of T.

Little could have been accomplished had it not been for the cheerful help of the native people themselves, Dr. Hughes said. Before the project got underway, Dr. Hughes and his colleagues explained the entire program, through interpreters, to the native residents of Igloolik. The study was discussed and approved by the Igloolik Eskimo Council before any work was begun.

The late Governor General Georges P. Vanier said six years ago of those who were developing Canada's North, "The experts make us realize the value and importance of the human element." The two score scientists engaged in the Canadian Human Adaptability Project are such experts and by the year 1973, when they complete their task, they will have demonstrated the value and importance of humanity in the Arctic to the distant world below.

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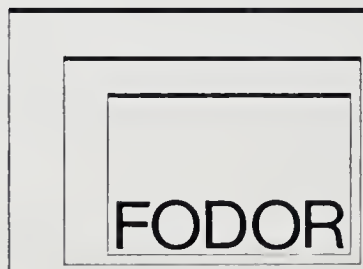
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LATIN AMERICA

(Continued from page 6)

witnessed a number of further happenings which illustrate the place of Latin America in our University's orbit.

¶The Seminar on the Acquisition of Latin American Library Materials (SALALM) held its fifteenth conference — the first in Canada — at the Westbury Hotel from June 23 through 26, under the sponsorship of the University of Toronto Library and the Organization of American States.

¶A grant from the Rockefeller Foundation to our International Studies Program is enabling the University of Toronto to assist the Universidad del Valle, Cali, Colombia, by seconding staff and graduate students.

¶The Interdisciplinary Latin American Studies Program entered its second four-year-cycle.

¶The Latin American in Residence Chair, filled in rotation by the six departments involved in teaching the Program, was held by the distinguished Brazilian Florestan Fernandes. (Professor Fernandes' visit was so successful that, not only will a special volume give his public lectures wide distribution, but he has been persuaded to remain at the University of Toronto as a permanent member of staff.) Arrangements were completed for the visiting-terms of the third and fourth holders of the Chair, the Chilean historian Rolando Mellafe and the Argentine Political Scientist José Nun, to join us in 1970-71 and 1971-72 respectively.

¶A "Study Abroad" provision, attached to the Latin American Studies Program, encourages students to spend their third year studying at a University in Latin America. They may select, as their centre of operations, either the Universidad del Valle in Cali, Colombia, the Universidad Autónoma de Guadalajara, Mexico, or the Universidad Nacional del Cuyo in Mendoza, Argentina, or, should their principal interest lie in Brazil, the Universidade de São Paulo. All these institutions have expressed willingness to receive our Third Year Abroad candidates. Two students, Keith Christie and John Fox, benefited from this arrangement last year, and four more are hoping to go down for the next session.

¶A number of Chilean students are pursuing advanced studies in different departments of our University through the cooperation of the Canadian International Development Agency and, as a further encouraging link with Chile, the Department of Astronomy and the David Dunlap Observatory are engaged in making astronomical observations from sites near La Serena in Chile.

The Latin American Studies Committee, with Professor Cranford Pratt's generous backing, featured a substantial number of visiting lecturers culminating in a two-day "mini-conference" on Latin America in February held under the joint auspices of Latin American Studies and International Relations.

In the national context, too, Canada's consciousness of her Latin

American neighbours is steadily gathering momentum. The Canadian Association of Latin American Studies has taken its place at the side of the other Learned Societies and held its first regular meeting in Winnipeg early in June. The recently founded Canadian Association for Latin America brings together Canadian companies with interests in Latin America. The AUCC Committee on Canadian

Latin American Inter-University Co-operation published an informative directory of academics engaged in Latin American teaching and research in Canada. The Ontario Cooperative Program of Latin American and Caribbean Studies coordinates the teaching and research done at four Ontario Universities (Guelph, McMaster, Queen's and Waterloo). The Government recently issued a Foreign Policy paper which reaffirmed the need for meaningful relations between Canada and Latin America and defined the role which the private sector can play in this process.

In his stimulating assessment of the Latin American university situation, published in the Summer 1966 issue of the *Graduate*, Dr. Bissell commented on the hope voiced by a former Colombian ambassador to Ottawa that cultural and academic associations could be developed. His concluding sentence bears repeating: "Obviously there is a great rôle for Canada to play in Latin America. All we need to do is start." (p. 27).

The exciting developments of the past year which I have outlined, both within the University and on the national scene, suggest to me that we have definitely started. No doubt, we have a long way to go.



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